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BOARD OF EDUCATION

Report of The Consultative Committee on SECONDARY EDUCATION

WITH SPECIAL REFERENCE TO GRAMMAR SCHOOLS AND TECHNICAL HIGH SCHOOLS

"*Chacun doit être à portée de recevoir l'éducation qui lui est propre.*"—ROLLAND D'ERCEVILLE, 1768

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PREFATORY NOTE

This report deals with a reference which was given to the Committee in 1933. Its recommendations are far-reaching, and their acceptance would involve substantial changes, not only in the public system of education in this country, but also in the administrative arrangements which govern it. To defer publication until the Board have reached a decision on the many issues raised would involve a delay in its presentation to the public which would be unacceptable to the educational world, and which the Board themselves would regard as undesirable.

It will be understood therefore that in publishing the report forthwith, the Board must not be regarded as committed to acceptance of its conclusions and recommendations. But whatever decisions may ultimately be reached on these matters, it is abundantly clear that the report deals in a most comprehensive manner with a difficult and complex subject, and in commending it to the careful consideration of all those who, as teachers, administrators or members of the general public, are interested in the educational system, the Board desire to acknowledge their great indebtedness to the Chairman and members of the Committee for their labours.

M. G. HOLMES.

17th November, 1938.

This Report has been out of print since January, 1942. The Education Act, 1944, has made it the statutory duty of local education authorities to make secondary education available to all children in accordance with their varying abilities and aptitudes. The Report is likely to have value to administrators, teachers and students at a time when the new policy is being developed in practice, and the Ministry has accordingly arranged for it to be reprinted, with the omission of the Appendices.

31st January, 1947.

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NOTE

The estimated gross cost of the preparation of the appended Report (including the expenses of the Witnesses and Members of the Committee) is £2,896 6*s*. 2*d*., of which £619 0*s*. 0*d*. represents the estimated cost of printing and publishing this Report.

NAMES OF THE MEMBERS OF THE CONSULTATIVE COMMITTEE

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LADY SIMON
Mr. J. H. SIMPSON
Mr. J. A. WHITE, M.B.E.
Dr. R. F. YOUNG (*Secretary*)

The late Miss E. R. Conway and the late Canon Sir Edwyn Hoskyns were also members of the Consultative Committee.

TERMS OF REFERENCE

To consider and report upon the organisation and inter-relation of schools, other than those administered under the Elementary Code, which provide education for pupils beyond the age of 11+; regard being had in particular to the framework and content of the education of pupils who do not remain at school beyond the age of about 16.

ANALYSIS OF
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PREFACE

We began our consideration of the present Reference in October, 1933 after we had completed our Report on *Infant and Nursery Schools.*

The Full Committee sat on 74 days between October, 1933, and September, 1938, and examined 150 witnesses. In addition Sub-Committees appointed to consider various aspects of the reference from the Board sat on 36 days and examined 22 witnesses. The names of these witnesses are given in Appendix I.A.

In March, 1935, the Consultative Committee appointed a Curriculum Sub-Committee to explore thoroughly the content, significance, and interrelation of the various subjects and activities of the traditional curriculum for Grammar Schools. This Sub-Committee, which consisted of 12 members of the full Committee, with the Master of Corpus as Chairman and Dr. R. F. Young as Secretary, was vested with power, subject to the approval of the President of the Board of Education, to co-opt members from outside.[1] In this way, it was fortunate enough to secure the services of Mr. John Bell, High Master of St. Paul's School and now Head Master of Cheltenham College, Miss I. M. Drummond, Head Mistress of the North London Collegiate School, Professor Sir Percy Nunn and Mr. J. Clement Platt, Head Master of Chadderton Grammar School, who placed at its disposal their wide knowledge and sound judgment in the preparation of Chapters IV, and VI of the Report dealing with the curriculum for Grammar Schools. To Sir Percy Nunn we are specially indebted for a valuable memorandum on the principles of the curriculum, which was of great use in the preparation of Chapter IV. This Curriculum Sub-Committee sat on 25 days between March, 1935 and June, 1938.

In February, 1936, the Committee appointed a Drafting Sub-Committee consisting of seven of its members, with the Master of Corpus as Chairman and Dr. R. F. Young as Secretary. This Drafting Sub-Committee met on 28 occasions between March, 1936 and October, 1938.

We take this opportunity of thanking our witnesses for the valuable evidence which they put before us, and also those other organisations and persons (whose names will be found in Appendix I.B.) who were good enough to furnish us with memoranda, statistics and other data bearing on our Inquiry.

(1) Under Clause 5 (iii) of the Order in Council of 22 July, 1920, reconstituting the Consultative Committee.

We desire to thank Professor H. A. Harris, Professor Winifred Cullis, and Professor Cyril Burt, who furnished us with memoranda on the physical and the mental development of boys and girls between the ages of eleven and sixteen, which form the basis of Chapter III of our Report. We are further indebted to Professor Burt for his memorandum on the history of the faculty psychology, written at the request of the Secretary, which is printed as Appendix IV.

We desire to thank Professor I. L. Kandel for his memorandum on the secondary school curriculum, printed as Appendix III; Professor H. R. Hamley for his memorandum on the cognitive aspects of transfer of training, printed as Appendix V; and Professor F. Clarke for his memorandum on some influences affecting secondary curricula in the dominions, printed as Appendix VI.

We desire also to express our thanks to the Secretary of the Committee, Dr. R. F. Young, and to Mr. R. J. Telling and Mr. W. H. Newell who in succession acted as Assistant Secretary. We owe much to their unremitting efforts, to their efficiency and to their patience.

To Dr. Young we owe a further and a very special debt. In almost every chapter our Report has gained much from his wide knowledge of educational history and systems. This is necessarily the case to a special degree in the Historical Chapter, and we wish to place on record that this important chapter is almost entirely his work.

We cannot end without recording our sense of the losses which the Committee has sustained during the preparation of this Report. Sir Henry Hadow, who had been Chairman of the Committee since its reconstitution after the War in 1920, resigned in January, 1934, owing to failing health. He had taken a leading part in the preparation of six Reports prepared by the Committee between 1920 and 1933. It is difficult to find words to express adequately the deep debt of the Committee to this distinguished scholar who presided with such distinction over their deliberations for fourteen years. In December, 1934, Miss E. R. Conway died and in June, 1937, Sir Edwyn Hoskyns. Miss Conway had been a member of this Committee since 1920, and had taken a prominent part in the preparation of several of our Reports, particularly those on *The Primary School* (1931) and on *Infant and Nursery Schools* (1933). Sir Edwyn Hoskyns was very specially interested in the problems concerned with the teaching of Scripture, and the ideas and constructive suggestions incorporated in Chapter V of the present report are largely due to him.

INTRODUCTION

The general purpose of this Introduction is to indicate briefly the nature of our principal recommendations, the interrelations of these recommendations, and some of the most important considerations which we have had in mind. We believe that a preliminary sketch of this character will be of assistance to those who read our Report. For convenience of reference the Introduction is divided into six sections. In section I we explain the relationship of the present Report to our Report on *The Education of the Adolescent* (1926), and the nomenclature we employ in describing secondary schools. We also deal with recent proposals to establish multilateral schools, which raise questions antecedent to any consideration of grammar school education. In Section II we deal with the problems of the grammar school curriculum. In Section III we deal with vocational and quasi-vocational schools, and our recommendation that there should be a new type of secondary school, to be called Technical High Schools. In Section IV we discuss the interrelation of secondary schools and especially of Grammar Schools and Modern Schools; the allocation of children between these schools; and the extent of the provision which ought to be made for grammar school education. In Section V we continue this discussion in its special bearing on the later transfer of pupils, and on the necessity for parity of status among secondary schools; and we indicate a number of important administrative recommendations which are involved in our proposals. In Section VI we make some observations about "Education for Citizenship" which were of too general a character to fit easily into the Report itself.

I. *The relation of this Report to the Report on The Education of the Adolescent* (1926); *Nomenclature; Multilateral Schools*

This Report is the third of a series in which we develop the theme of our Report on *The Education of the Adolescent* (1926). In that Report we visualised the education of the boy or girl as a continuous process, but conceived it as developing through two successive periods to which we gave the names of "primary" and "secondary"; and we laid down the broad lines for a new advance in the general scope of our national

system of education. In our Reports on *The Primary School* (1931) and on *Infant and Nursery Schools* (1933), we dealt with the special problems and opportunities of self-contained schools for children in the primary period of education which ends at the age of 11+. We now return to the education of boys and girls in the secondary period which begins at that age.

In our Report on *The Education of the Adolescent*, we recommended that education after the age of 11 should be known by the general name of *secondary education*, and that the two types of school which are mainly concerned with this secondary stage should be designated 'Grammar Schools' and 'Modern Schools'. 'Grammar Schools' we described as schools of the more academic type which are at present conducted under the Board of Education *Regulations for Secondary Schools*. In this category we include also those schools which are recognised by the Board of Education as efficient Secondary Schools (Board of Education, List 60, Part I). We gave the name of 'Modern Schools' to what are called 'Senior Schools'. This term is at present used by the Board of Education to designate both 'non-selective Central Schools' and also 'selective Central Schools'. Both these types of school are at present conducted under the *Code of Regulations for Public Elementary Schools*. In the present Report we adhere whenever possible[1] to the terminology employed in our Report on *The Education of the Adolescent*, and for the reasons stated in that Report we urge its general adoption.[2]

In addition to Grammar Schools and Modern Schools, there are other schools of a vocational or quasi-vocational type in which adolescent pupils are educated, and which our former Report (p. 79) recognised as giving post-primary education. That Report, however, left the position of these schools in the system of secondary education to be settled in the light of a wider experience than was then available. Nor did that Report deal explicitly with the particular problems which arise in Grammar Schools, including that of the curriculum suitable for the many pupils in these schools who leave about the age of 16. It is to these two questions, the organisation and interrelation of schools, other than those administered under the Elementary Code, which provide

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[1] Chapter II is an exception. The reason is explained in a note prefixed to that chapter on p. 87.

[2] cf. *The Education of the Adolescent* (1926), pp. 93–9.

education for pupils beyond the age of 11+, and the framework and content of the education given in these schools up to the age of 16, that our reference has directed our attention. It will be noted that it specifically excludes Modern Schools from our consideration. We have, however, found it impossible to discuss the problems with which we are immediately concerned without some reference to post-primary schools which are at present administered under the Elementary Code. Reform in any type of school inevitably raises problems in relation to every other type of school which affords an alternative education to that in question. The better adapted any school becomes to deal with particular types of pupils, the more important it becomes that in fact the school should be dealing with such pupils and not with children admitted for reasons other than the kind of education which it provides.

We shall deal later in this Introduction and more fully in the Report itself (Chapter IX) with the conclusions which appear to us to follow from these considerations. We refer to them here in order to guard against an initial misunderstanding. We are of opinion that the schools which are directly covered by our reference should retain a special character and must retain a special importance. It does not follow that they should enjoy specially favourable conditions: on the contrary, we consider that the existence of different conditions, except in so far as they are justified by differences of curriculum, is open to grave objection.

Before reaching the conclusion that these schools must remain a separate type of school, we considered carefully the possibility of *multilateral schools*.[1] The special characteristics of this type of school are the provision of a good general education for two or three years for all pupils over 11+ in a given area, and the organisation of four or five 'streams', so that the pupils at the age of 13 or 14 years may follow courses that are suited to their individual needs and capacity. There would be a common core in these several courses, but they would differ in the time and emphasis given

[1] We use the term 'multilateral' to describe a school which, by means of separate 'streams,' would provide for all types of secondary education, with the exception of that provided by Junior Technical Schools in so far as these depend on their association with a Technical College and the equipment there available.

to certain groups of subjects. There would, for example, be a literary and linguistic course; a mathematical and scientific course; and other courses in which the pupils would devote more time to subjects leading on to technological studies, to commercial studies or to practical or artistic pursuits. In this way the ordinary grammar school courses would, it is maintained, be fully provided for, and separate Grammar Schools would not be necessary. The policy of substituting such multilateral schools for Grammar Schools, for Modern (Senior) Schools, and, to some extent, for Junior Technical Schools, has recently been advocated and has received considerable support. It is a policy which is very attractive: it would secure in the first place the close association, to their mutual advantage, of pupils of more varied ability, and with more varied interests and objectives, than are normally found in a school of any one type. Further, pupils could be transferred from an academic to a less academic curriculum without change of school. But in spite of these advantages we have reluctantly decided that we could not advocate as a general policy the substitution of such multilateral schools for separate schools of the existing types.

The reasons which weighed with us in favour of the existing system are as follows:—

(i) In order to secure a satisfactory number of pupils in each 'stream' in a multilateral school, the size of the school would have to be very considerable, say 800 or possibly larger, and we believe that the majority of pupils gain more from being in smaller schools.

(ii) There is general agreement that much of what is most valuable in the grammar school tradition depends on the existence of a Sixth Form. But a Sixth Form can only play its traditional part in the life of a school if it contains a reasonably high proportion of the pupils in the school. This could scarcely be the case if only half the pupils, or probably less, were on the grammar school 'side' and were with comparatively few exceptions the only recruits for a Sixth Form. It is in general difficult enough to secure adequate Sixth Forms in ordinary Grammar Schools as a result of the large proportion of pupils who leave before or about the age of 16.

(iii) Even where geographical and other conditions admit of relatively large schools there is much to be said for their being wholly of the grammar school type. This is so, in view of the importance of having large Sixth Forms which render economically possible a considerable variety of Sixth Form courses.

(iv) We attach great importance to the steady evolution of the curriculum and methods of teaching in Modern Schools, and equal importance to carrying further certain reforms in the curriculum of Grammar Schools with which this Report will be concerned. We believe that it would be very difficult, if multilateral schools became common, even in certain areas, to find Heads who would be as competent to control and inspire *both* developments as to control and inspire *one* or *other*; and we cannot accept the view that the influence of Heads of 'sides' can be a complete substitute for the influence of a Head Master or Head Mistress. There is, moreover, the risk that if a 'Grammar' and 'Modern' curriculum existed in the same school the former might, as a result of its long established prestige, exert an excessive influence on the latter. We are therefore of opinion that it is in general best for Grammar Schools and Modern Schools to exist and develop independently.

(v) The special value of Junior Technical Schools depends in our opinion on their contact with the staff and the equipment of a Technical College. In consequence special 'courses' in multilateral schools would not be a satisfactory substitute for Junior Technical Schools. This view would probably be accepted by the majority even of those who would wish to substitute multilateral schools for Grammar and Modern Schools.

Any general policy of establishing multilateral schools would now be very expensive, and it would be justified, more especially in view of the 'Hadow reorganisation', only if it were clear that a substantial balance of advantage would result. For the reasons given above we do not think this would be the case, and we cannot therefore recommend the general creation of multilateral schools, even as the goal of a long range policy.

We are, however, of opinion that some measure of experiment with multilateral schools may be desirable, especially in new areas; and also that there is one set of circumstances in which multilateral schools ought almost certainly to be provided. These circumstances arise in districts where the Grammar School is too small either to give an adequate school life or to combine reasonable economy with the provision of an adequate staff. Some experiments have already been made, and others have been contemplated. It is important that administrative and other difficulties which stand in their way should be removed without delay. What modifications would be necessary in existing regulations is discussed in Chapter IX.

II. *Problems of the Grammar School Curriculum*

The development of the grammar school curriculum is traced in Chapter I of our Report. A careful study of the present position has led us to the belief that the existing arrangements for the whole-time education of boys and girls above the age of 11+ in England and Wales have ceased to correspond with the actual structure of modern society and with the economic facts of the situation. The grammar school curriculum is still largely planned in the interest of pupils who intend to proceed to a University, although 85 per cent. of the pupils do not remain at school beyond the age of 16. The Grammar School must obviously safeguard the interests of those pupils who are going on to a Sixth Form and perhaps to a University, but it must also safeguard the interests of those who leave about the age of 16. In their case, courses of study whose essential value is that they are a foundation for further study at a later age are clearly unsuitable, and efforts are already being made to improve the position in this respect.

An obvious example of such an attempt is afforded by the provision of courses (and papers in the School Certificate) in General Science as alternatives to courses in particular sciences. These courses in General Science aim at relating science to everyday life and explaining its general principles and laws in a more popular manner than is possible in the early stages of a systematic study of any particular science. It appears probable that in those parts of the syllabus which deal with the older subjects in the curriculum (i.e., Physics and Chemistry) 'General Science' has even now not moved far enough away

from the syllabuses of the particular sciences; and they should include popular accounts of relatively advanced work.

In the interests of the large numbers of pupils who will leave school at, or shortly after, the age of 16, we regard it as one among a number of essential conditions that the courses of instruction up to that age should be in some sense complete in themselves, i.e., should not consist to any considerable extent in courses which have their main value only if formal education in the subjects in question is carried further. Nor do we consider that this need or should prejudice the interests of those pupils who continue an academic education at school or elsewhere and go ultimately to a University. It is important that in the last year, possibly in the last two years, before the School Certificate is taken, such pupils should have had instruction in the subject or subjects in which they will later specialise, of such a character as to lay the necessary foundations for their Sixth Form work; and in our Report we indicate how in our judgment this can be secured. In subjects other than those in which these pupils later specialise, their needs are, however, very similar to the needs of those who leave at 16. They also, save to a very limited extent, will not be pursuing the formal study of these other subjects. What is needed is, here also, such a treatment of subjects as will give some knowledge of their content, and arouse interest.

Further, the governing principle adopted in our Reports on *The Primary School* and on *Infant and Nursery Schools* is in our opinion equally applicable here, whether pupils leave school at 16 or remain after that age. The prime duty of the secondary school is to provide for the needs of children who are entering and passing through the stage of adolescence; and it is useless, if not harmful, to try to inculcate ideas, however valuable they may be at a later stage of growth, which have at the time no bearing on a child's natural activities of mind and body, and do nothing to guide his experience. A further consideration appears to us to be of great importance. The traditional grammar school curriculum is still coloured by obsolete doctrines of the faculties and of formal training; and the endeavour to teach a wide range of subjects to the same high level to all pupils has led to the overcrowding of the time-table. We are convinced that this burden must be lightened, and that from the age of 13+, or as soon as special interests or aptitudes become evident, a pupil should concentrate on a smaller range of subjects, so long as these include English, a language, and Science or Mathematics.

With these reservations, we see no reason to recommend any revolutionary change in the subjects and activities for which a Grammar School must offer facilities. Where we believe change is necessary to meet the conditions of modern life is in the emphasis to be laid on particular subjects and above all in the content of these subjects. We recognise that a curriculum, even for pupils up to the age of 16, gains greatly from being centred round some main core or branch of study. This used to be provided by the study of the Classics. We share the opinion that in modern conditions it should be secured in and through what are often described as the English subjects. By these we mean careful training in comprehension of what is read and in the expression of ideas both orally and in writing; History; Geography (which is however closely related also to the scientific subjects); English Literature; and Scripture. One of the gravest criticisms alike of Public School and of Grammar School education turns on failure to do all which might be done to educate the powers of comprehension and composition. Both appear to us to require markedly greater attention, and in regard to the latter it appears to us that there is much to be learnt from the methods of teaching employed in France.

We welcome, and would wish to see extended, the tendency to pay greater attention than in the past to recent history. We recognise the importance of knowledge of the classic periods of British history, and of some knowledge also of the histories of Greece and Rome. Without such knowledge it is impossible to understand our own institutions, or to appreciate our own literature. But the importance of recent history is enhanced for pupils under 16, since at that age the theoretical discussion of economic questions is difficult and inadvisable, and since the direct discussion of current political questions is often open to considerable objection. Recent political and economic history affords in consequence the best introduction to an interest in politics. Such history supplies necessary information, and, of even greater importance, can be so taught as to induce a balanced attitude which recognises different points of view and sees the good on each side.

In regard to the study of English literature we are recommending that set books should not be prepared for examination. We believe that the form of study which these involve does real harm to the growth of an interest in literature which ought, rather specially to characterise a grammar school education.

In regard to Scripture we make in Chapter V certain recommendations which we regard as of great importance.

Apart from the English subjects, we desire to see the study in all Grammar Schools of at least one foreign language; but we recommend that the efforts of those pupils with relatively little linguistic ability should be concentrated on acquiring a capacity to read rather than to write the language in question. Of Science we have already spoken. We recommend that substantially less time than at present should be given to Mathematics, but we recommend that it should be taught to all, and so far as possible in such a way as to lead to the recognition that mathematics constitutes one of the main achievements of the human mind. We attach great importance to the further development of the tendency to give more time and attention to physical education, to the artistic subjects and to handicrafts.

Two further recommendations remain to be mentioned at this stage. We are anxious that in country Grammar Schools a rural background and colour should be given to the teaching, especially in General Science. In the main body of country schools, we have primarily in view not vocational training for agriculture, but rather the restoration of what used to be more widespread characteristics of English life than they are today, appreciation and understanding of the countryside. On the other hand, we hope that local authorities will seriously undertake the provision, in a certain number of country Grammar Schools, of courses with a definite 'agricultural bias' which would afford from about the age of 15 a preliminary vocational training.

In urban schools also, when it is possible to give satisfactorily a preliminary training of direct vocational value, we consider that a limited number of periods might with advantage be devoted to such training in the last year at school even in the case of those leaving at the age of 16. We have in mind three considerations: first, of course, the practical advantage to the pupil; secondly, the argument afforded for retaining the pupil at school during the year in question; and, lastly, the gain from work which the pupil himself recognises as possessing value for the next stage of his life, since such work serves to hold and to stimulate his interest, and is likely to react favourably on all his work.

Before leaving the important question of the curriculum of Grammar Schools, certain further remarks should be made.

We recognise that our recommendations follow lines which have already been widely suggested and along which experiments have already been made with marked success. We should indeed have made them with far greater hesitation had this not been so. On the other hand we believe it to be of vital importance to the future of education in this country, that reform along the lines we have indicated should be concerted, general, and far more radical than hitherto. We have in mind particularly the contrast between courses primarily designed to lay the foundation for further study and those which are suitable when further academic study is in fact improbable, the relief of the curriculum for the individual pupil, and the teaching of English composition. Secondly, we recognise that to carry out these proposals is impracticable without further and drastic reform of the School Certificate Examination. We believe that the changes which we recommend in Chapter VII present no insuperable difficulties; in the main, they are changes which are already widely advocated. On the other hand, we are of opinion that the existence of an examination taken at about the same age as at present is desirable, as stimulating and testing the work alike of the schools and of individual pupils.

III. *Vocational and quasi-vocational schools; Technical High Schools*

We turn now to those schools, other than Grammar Schools, which are directly covered by the terms of our reference, i.e., 'Junior Technical Schools'. We think it necessary, however, to draw an important distinction. There are schools (e.g., schools of printing, dressmaking, laundrywork, waiting) which prepare for single and definite vocations and to which, as we think, it is desirable to restrict the term *vocational schools*. There are other schools (e.g., many Junior Technical Schools, Junior Commercial Schools and Junior Art Departments) each of which can prepare for a considerable variety of vocations. Both classes of schools are doing valuable and important work, and provide, in almost every case, not only for technical instruction but for the continuation of general education. With regard to technical instruction we do not think that we can usefully or properly make any recommendations. With regard to the general education which is provided we desire to recommend here again that ample time should be given to English, along the lines already indicated, and to

recent history. In certain cases it appears important also that pupils should have opportunities for learning a modern language.

The suggestion has been made by the three professional associations principally concerned (The Association of Technical Institutions, and the Associations of Principals and of Assistants in such Institutions) that at least in certain of these schools recruitment should take place at 11+, i.e., at the same age as recruitment for Grammar Schools. After very full consideration we have reached definite conclusions on this issue. We consider that vocational schools, in the narrow sense, ought not to recruit before the age of 13 and with the raising of the 'school leaving age' we consider 14 to be preferable. We do not consider that pupils ought to make at at an earlier age a decision which goes far to commit them to a specific vocation. Secondly, although these schools provide for a continuance of general education, this is necessarily not the *primary* interest of those responsible for such a school and still less of the pupils. We consider that a general education ought to be the primary concern until, at the most, two years before the normal age for leaving school. In the case of Junior Art Departments the first of these considerations does not apply in the same degree, in view of the general educational value of an art training. On the other hand as much art training as is necessary or desirable before the age of 13, if not before 14, can be given both in Grammar Schools and in Modern (Senior) Schools. Further, in all but the most exceptional cases the range and proportion of a pupil's special aptitudes are not so clear before say 13½ as to justify transfer to a Junior Art Department.

After careful consideration of the evidence, we have reached the conclusion, however, that those Junior Technical Schools which are based on the engineering and building industries, demand different treatment. They appear to us to be capable of developing, and indeed in a large degree already to have developed, a form of secondary education which ought to be regarded as an alternative to that of a Grammar School. We have accordingly decided to recommend the conversion of a number of these schools into Technical High Schools in every respect equal in status to Grammar Schools. These schools should provide a five-year course, from the age of 11+, on the basis of the general selective examination at that age; admission being determined (among those pupils who reach the necessary standard in the examination) in accordance

with the wishes of the parents, with the accommodation available, with the suitability of the boy as determined on the report of the Head of the primary school, and on the result of an interview with the Head of the Technical High School.

We recognise that in the majority of cases such boys are likely to enter the engineering or building industries; but our recommendation is based not only on the variety of openings these industries afford but also, and very largely, on the view that the education in question will best develop the abilities of pupils with certain interests and with the necessary aptitudes, and will be, in consequence, the best education for them, even if they do not eventually enter these industries. The engineering and other subjects, which will be studied in the last three years of the course, involve an intellectual discipline, which, though severe, is within the capacity of pupils between the ages of 13 and 16, and includes and depends on the apprehension and application of a variety of related principles.

So far as the evidence at present goes we are not convinced that the courses of study in Junior Commercial Schools and Home Training Schools have developed a similar discipline. Further, it is difficult to see how they could do so. Economics provides a body of principles which relate the problems of commerce; but Economics, carried sufficiently far to fulfil this purpose, is in our judgment beyond the grasp of pupils under the age of 16. The special courses in Home Training Schools are also, and inevitably, lacking in any coherent range of underlying theory. The chemistry of cookery, for example, is far too complicated for the purpose. In consequence we do not recommend that Junior Commercial Schools and Home Training Schools should be converted into Technical High Schools. We consider that a child who desires to receive either type of training but who has the necessary ability to profit from a grammar school education, should go first to a Grammar School and should only proceed to a Technical Institution at the age of 16 or in exceptional cases at about 14. We wish to add that, though we consider that the teaching, in Grammar Schools, of Commercial Subjects and Domestic Science might usefully be extended, especially by means of Sixth Form courses, we are clear that in a considerable number of cases transfer may be desirable at 16 to a suitable Technical Institution. We believe, however, that, while close relations should be established between Grammar Schools and Technical High Schools, so that opportunity for transfer may be afforded to those pupils whose later development makes it clear that they

will be better suited by an alternative form of secondary education, such considerations do not apply to the transfer of pupils from Grammar Schools to vocational schools before sitting for the School Certificate. We think that the latter type of transfer should be exceptional.

Two further points should be mentioned in order to make clear our proposals in regard to Technical High Schools. We feel that it will be desirable to introduce some form of school leaving certificate for pupils in Technical High Schools, not only as evidence of their status, but also as providing a record of attainment. At the same time we have been impressed by the conviction of all witnesses representing Junior Technical Schools that their freedom from external examinations has been a vital factor in their success. In consequence we would not seek to impose any system of external examinations on Technical High Schools, and recommend that a form of school leaving certificate be established which shall be awarded on the result of internal examinations conducted by each Technical High School under conditions of assessment approved by the Board of Education, who would endorse the certificates.

Secondly, we realise that there would probably be some boys in these Technical High Schools who would desire to defer their entry into industry till an age later than that of 16. Such boys could either remain in these schools or proceed, as at present, either to a higher technical course, which may in many instances be provided within the Technical College in or near which the Technical High School may be housed, or to a University or University College. We have decided to recommend that the upper age limit in the Technical High Schools should in general be 16+. We reached this conclusion only after considerable deliberation. The immensely important part played by Sixth Forms in Grammar Schools pointed in another direction. On the other hand we became convinced that in Technical High Schools boys will be matured, as they have been in Junior Technical Schools, not so much (although even here this is a substantial factor) through self-government in the school, as through being taught by men who are normally teaching adults and whose methods of teaching and control have, in consequence, a special character, and more generally through forming part of an institution which is largely concerned with adults. We reached the view that, while different, the process was no less effective, and in consequence we do not consider that a higher age limit

than 16 is necessary or, in general, desirable. We are, however, disposed to think that a few of these schools may in course of time develop the equivalent to a 'Sixth Form', which would contain the boys referred to at the beginning of this paragraph.

Whilst we do not recommend that every Junior Technical School should as a matter of course be converted into a Technical High School, we do consider that a generous provision of such Technical High Schools should be made, by the conversion of existing schools and the establishment of new schools. The special educational value and character of these schools depend, however, on their employment of the teaching staff, and their use of the engineering plant and equipment, of a Technical College; and, since such colleges cannot be provided in all types of area, we fully recognise that in a number of areas provision ought to be made in Grammar Schools, by means of 'engineering sides', for the pupils who in other conditions might go to Technical High Schools. We consider the making of such provision in these circumstances to be a matter of great importance, but we consider also that success will depend both on adequate equipment and on employing teachers who have had a training in engineering which has included actual practical experience.

IV.—*Interrelation of secondary schools of different types, particularly Grammar Schools and Modern Schools: the allocation of children between these schools: the extent of the provision for grammar school education*

There remains the whole range of questions concerning the relation of education in schools of the grammar school type, and in the proposed Technical High Schools, with that in other schools. A conventional phrase describes the function of Grammar Schools as training children to work 'with their heads rather than with their hands'. That phrase indicates a real distinction, but it does not do so with any accuracy. It is open to the obvious criticism that it is essential to many vocations, and is desirable in all, that work with the hands should involve the use, and the conscious use, of intelligence. The phrase may be restated more aptly by contrasting work with the hands with work with tongue and pen. The Grammar Schools afford in general (although not for every child) the best training for professions which involve work with tongue

and pen; and, so far as tney can be differentiated from other schools by reference to the vocational training they afford, they are differentiated by this as well as by the related fact that they prepare for the Universities. Nor is it improper, as is sometimes supposed, to differentiate the Grammar Schools by the vocational training which they give. From the first they were designed to give the preliminary training necessary for those who were to enter the learned professions. It was by a later development that the training which was given for this purpose, and more especially the training in the Classics, came to be regarded as having an independent and inherent value as a 'general liberal education'. But conditions have changed, and the vocational training given in Grammar Schools is now best secured by a greater concern than in the past with other subjects and especially with the English subjects. This change of emphasis is also necessary in changed conditions in order that they may better afford a 'liberal education', this phrase being taken to mean such an education as will enable men and women to understand the world in which they live and to contribute to the understanding of its problems. The history of Greece and Rome and the conceptions which they gave to the world retain immense importance for the proper understanding of the modern world; but, save as these conceptions have been interpreted in the thought of later times or are embodied in existing institutions, they are less widely relevant than, for example, recent history, English literature, and some appreciation of the significance of modern science. Further, capacity to use and to understand accurately both English and, so far as possible, modern languages has become both the key to the most relevant literature and the most vital factor in the exchange of ideas.

The situation has changed radically in another respect. Democracy is now challenged, and the duty of citizenship in a democracy renders it essential that all should be taught to understand and to think to the best of their ability. It is likely to remain true that *in general* those pupils who are most capable of being taught to think in abstract terms will best be taught to do so by a curriculum of a more academic and scientific character than is provided in Modern Schools. It is accordingly important that these children should receive a grammar school or a technical high school education. But it is equally important to give a modern school education to those children, including a fair proportion of children of marked ability, who will best profit from that type of education.

We are thus brought to the fundamental problems of the proper allocation of children as between schools of different types.

We have deliberately made no attempt to discuss in this Report the selective examination at the age of 11+ for Grammar (Secondary) Schools. That topic was dealt with at considerable length in Chapter VII of our Report on *The Education of the Adolescent* (1926) and in Chapter X of our Report on *The Primary School* (1931). Moreover, a Committee of Inspectors is at present considering various aspects of the examination, and it appeared to us that no useful purpose would be served, and that the preparation of the present Report would inevitably be delayed, if we tried to cover the same ground.

We desire, however, to make two observations on the bearing of our present Report on this examination. We believe that the examination is capable of selecting in a high proportion of cases those pupils who quite certainly have so much intelligence and intelligence of such a character that without doubt they ought to receive a secondary education of the grammar school type, and also those pupils who quite certainly would not benefit from such an education; and we believe that the examination will be so improved in the light of experience and as a result of the report of the Committee of Inspectors, as to increase the accuracy with which these two classes are delimited. We are recommending that choice for grammar school places as between pupils who fall into neither of these classes should be by selection rather than by their relative place in an order determined by the examination. We make this recommendation, as we explain, primarily for the reason that with these pupils the question as to which will benefit most from and contribute most to a Grammar School will very often depend on qualities which no written examination can test; but we make our recommendation the more readily since, even in regard to examinable capacities, an examination, however devised, is far less trustworthy as a means of placing in order of merit a middle group than in determining whether particular candidates are definitely above or are definitely below such a group.

Secondly, we desire to emphasise that no method of choice, whether by examination or by selection, can work satisfactorily if there is not an adequate supply of grammar school places; and we are clear that the supply is not adequate

until there are enough places to secure a grammar school education for those pupils who, all things considered, will benefit more from such a course than from other forms of secondary education.

Our recommendations regarding the amount of provision of grammar school education are based on this assumption. After an examination of the progress made in the building of new Grammar Schools and the enlargement of old ones during the past 30 years, we sought to arrive at a working standard by which local authorities might measure their provision, always with regard to what they judged to be the particular needs of their areas. The standard we have adopted is an annual admission of 15 per cent. of the 'secondary school age-group', i.e., the age-group '10 to 11 years', in the public elementary schools of the area. The number of children annually admitted from other than public elementary schools for whom additional provision is required, is equivalent on the average to a further 3 per cent. of the same age-group. The necessity for some such standard was borne in upon us by the fact that the existing percentage varies in England from 4·2 to 26·4.(1) So striking a disparity as was revealed by a ratio of 1 : 6 in the scale of provision did not appear to us to correspond with any conceivable differences in the abilities and interests of the children, in the character and traditions of the areas, in industrial conditions, or even in the uses which had been made of Grammar Schools. In mentioning this standard, however, we have realised that it might require considerable modification in some areas in order to conform to the governing principle to which we have already referred.

V.—*Transfer of pupils at the age of* 13+ : *parity of status among secondary schools : administrative recommendations*

All our witnesses insisted that a selective examination at the early age of 11+ should not be a decisive factor in determining a child's career. Not only is there need for some means of correcting initial errors in the classification of the children, but some means also of providing for those pupils whose later development makes it clear that an alternative form of secondary education would be better for them. We received convincing evidence as to the various circumstances which may arise to render a change of school desirable at a later age than 11+. We consider it essential that there

(1) In Wales from 17·7 to 55 per cent.

should be a regular review of the distribution of pupils as between different schools, preferably at about the age of 13. We do not recommend for this purpose a further examination; we do recommend the requirement of returns from the heads of schools as to which pupils might, in their opinion, be better placed in other types of school; and we desire to see definite administrative machinery created for this purpose.

An educational principle which we advocate on general grounds has an important bearing on the later transfer of pupils between those types of school which have an age range starting at 11+, namely, that the courses of study in all schools between the ages of 11 and 13 should not differ to any marked extent. While we recognise that not all the pupils in a Modern School should study a foreign language, we consider that whenever possible a foreign language should be included in the curriculum of pupils who show academic ability, both because these pupils are most likely to gain educationally from this provision, and because it is in regard to them that the question of transfer is most likely to arise.

It is important that the question of transfer should be determined simply by educational considerations. It is even more important that the original preference of parents as between a Grammar School and a Modern School should be determined by such considerations. We recognise that in existing social conditions vocations are determined not only by aptitude but by family circumstances and tradition; and in consequence some pupils may be destined to work 'with tongue and pen' even when such natural aptitudes as they have point elsewhere. In certain cases, and while existing social conditions remain, this may supply an argument in favour of that curriculum and those methods which in general best prepare for work of the type in question, even in cases where a modern school education would be otherwise desirable. Again, for pupils who combine intellectual ability with a practical and especially a strong mechanical bent, a Technical High School will often provide a better alternative to a grammar school education than will a Modern School. But we are convinced that a number of pupils who enter Grammar Schools would have their intellectual interests and powers of thought better developed by the education provided by Modern Schools. Moreover, by no means all who succeed in commerce or industry are of the type which benefits at all obviously from an academic and scientific education; and it is very probable that many such men would have gained

more from the curriculum of a Modern School, especially if, as might well have been the case, they were more attracted by such a curriculum and more industrious in pursuing it. On the one hand Grammar Schools are not really likely to supply so well the form of education which Modern Schools exist to supply and develop. On the other hand, the interests and energies of Grammar Schools ought not to be engaged, and their vacancies ought not to be occupied, in attempting to educate pupils who are not suited to the education which they exist to provide.

At present parents are influenced in their preference between Grammar and Modern Schools not only by educational, including vocational, considerations, but by the greater prestige of Grammar Schools. These schools have an ancient and great tradition. They retain a considerable proportion of their pupils to 17 or 18 years of age. Even more important is the fact that, since most other aptitudes are more often associated with academic ability than with its absence, the average general intelligence of the pupils in Grammar Schools is likely to be higher than that of the pupils in Modern Schools. Intelligence of this sort is not, however, the only or the most important thing in life nor is it regarded as such by most persons; and, other things being equal, it should not be an insuperable task to persuade parents to prefer for their children another form of education if in fact they were likely to gain more from this.

Unfortunately, in present circumstances other things are not equal. Grammar Schools and Modern Schools are administered under different Codes and often by different Authorities. They have different salary scales, and the required conditions of building and equipment and size of classes show differences which are not merely such as are involved in differences of curriculum. These differences, taken as a whole, are such as to give the impression that the Grammar School is necessarily better than the Modern School.

For these reasons, we consider it of great importance that everything possible should be done to secure parity of status for Grammar Schools, Technical High Schools, and Modern Schools. This means in effect that the *multilateral idea*, although it may not be expressed by means of multilateral schools[1], must be inherent in any truly national system of

[1] See pp. xix–xxii and pp. 291–4.

secondary education. Consequently, in Chapter IX, we have re-affirmed, and revised in the light of later experience, certain administrative principles which were implicit in our earlier Report on *The Education of the Adolescent* (1926). We recommend that the three types of school mentioned above should be conducted under a new Code of Regulations for Secondary Schools, and we have examined certain administrative consequences of this proposal.(1) We recommend the adoption of similar standards for the size of classes, and for the planning and assessment of school buildings, save in so far as differences of curriculum justify different requirements. We recognise also the desirability of a uniform minimum leaving-age for all secondary schools. Another measure which we consider of vital concern to the attainment of parity of schools is the framing of Establishments of Teaching Posts, in order that a teacher's remuneration shall not be so dependent as it is at present upon the particular type of school in which he is working: we hope to see posts on the 'higher' scale of salary, the present 'secondary' scale, available in all schools, although not in the same proportion.

We attach great importance to all these recommendations. We believe that no satisfactory solution can be secured for the educational problems of the country until they are carried out. How quickly this could be done is not for us to say. We feel bound, however, to make clear that in our judgment such reforms as we have indicated, and any legislation necessary to secure these, are essential to the future well-being of education, and we recommend that action should be taken with the least possible delay.

It will be noticed that so far we have said nothing about one great difference between Grammar Schools and Modern Schools, namely, the fact that fees are charged in the former but not in the latter. We hold that the conditions which apply to Modern Schools should be extended to Grammar Schools and Technical High Schools as soon as the national finances permit. But, provided there is an adequate supply of Special Places and a generous scale for remission of fees, we do not consider that this difference is as important in its effect on parity of status as might have been expected. Meanwhile we consider that, for an independent reason, the special place system

(1) These have not included one matter which is of vital importance in both central and local administration, viz., the Inspectorate for different types of secondary school. It is essential, in our opinion, that inspection should be sufficiently specialised to ensure the free development of the different types.

requires reform. Where the cost of education in a school is being reduced for all parents by substantial grants from public funds, it is obviously desirable that the children whose parents are thus assisted should be the children who will most benefit from the schooling in question. We therefore recommend that the system known as '100 per cent. Special Places' should be generally adopted in regard to such schools. We are conscious, however, that if this were done otherwise than gradually, or without certain further provisions, notably as to the method of selection, or even if this policy was adopted immediately or without further consideration in regard to certain classes of schools, the result might well be to level down rather than, as we wish, to level up the reputation of schools. In consequence, in Chapter IX we recommend the adoption of the '100 per cent. special place' system; but we do so subject to the adoption of certain other recommendations designed to afford safeguards against this danger.(1)

VI. *Education for Citizenship*

In speaking of the importance of recent history we have already referred to 'education for citizenship'. When we said at the beginning of this Introduction that we proposed to deal briefly with the problem which it presents we had in mind more than this. The importance of the problem has been emphasised in recent years from many quarters. It is scarcely possible to exaggerate that importance, and it is not too much to say that all teaching should contribute to this end. On the extent to which the youth of this country can be fitted to fulfil later their duties, and to take advantage of their opportunities, as citizens of a democratic State may well turn the whole future of democracy, and that not only in this island. It is impossible to deal here with all the problems involved in supplying suitable training, the more so since we are here primarily concerned with those who leave school at 16, and since few things are more certain than that study of the issues involved in national and international politics must in the main come at a later age and be continued throughout life. On the other hand we believe that valuable foundations for this can be laid before the age of 16.

We do not underestimate the value of imparting to pupils, even those under 16, information about national and international affairs and, not least, about local government. We

(1) We realise that the extension of the special place system raises the question of an extension of the system of maintenance allowances.

recognise the excellent use which has been made by certain teachers of courses of 'civics'. But, as we indicated when emphasising the importance of teaching recent history, we believe that in general this information can best be imparted to pupils under the age of 16 in the course of such teaching, and as arising from it. Further, what is most important is inculcating a habit of mind. This may be done by emphasising the serious character of the social and other problems which have to be faced, and at the same time by insisting that, while there is need for enthusiasm in causes which are felt to be vital, there is need also for study and judgment, so that not only the reality of political differences but the measure of common ground may be fully recognised. All this, in our judgment, is best secured in and through the teaching of history provided always that this is so given as to bring out the general necessity of these qualities and not merely their desirability or value in certain circumstances in the past.

Further, History is not the only subject which can be made the vehicle of teaching which is valuable for this purpose. It does not follow that, because people have learnt to apply logical processes in mathematics, they will think logically about politics, nor that, because they have learnt to verify facts, and to try to check theories by facts, in the physical sciences, they will realise automatically the desirability of this procedure in other fields. On the other hand such 'transfers' can be made at the least far more probable if in teaching, say, mathematics a real effort is made to bring out the significance of logical argument and to emphasise the desirability of such argument whenever possible, and if in teaching science the scientific method is expounded as a method which ought to be employed in other fields. By such means we can do something to counteract the excessive influence of emotional interests and inhibitions in the consideration of matters with which men are deeply concerned.

It is obvious that education for citizenship along these lines depends at every point on conscious effort by teachers to use their opportunities. Success will, however, inevitably depend even more on the unconscious influence of example than on the most skilful use of opportunities. It is not possible to exaggerate the debt in this connexion which may be owed to a teacher by boys and girls who in their last years at school have come under the influence of someone who is able to combine with clear political opinions both wide sympathies and the habit of dispassionate criticism of political creeds.

CHAPTER I

SKETCH OF THE DEVELOPMENT OF THE TRADITIONAL CURRICULUM IN SECONDARY SCHOOLS OF DIFFERENT TYPES IN ENGLAND AND WALES

The lessons of history and their limitations

1. The " lessons of history " are often difficult and obscure, but it is at any rate possible to discover, from the systematic study of an historical development such as the evolution of the traditional curriculum for Grammar Schools (including the non-local Public Schools) and for other types of secondary school, the successive phases of opinion by which it has been influenced. As we see one view or theory of education subjected to criticism and in consequence modified or superseded by another, we may be able partially to understand and appraise the value and meaning of each successive phase, and to form opinions of our own which, though they cannot possibly claim to be final, may at any rate claim to be based on something more substantial than current opinion and popular views of the significance of what has occurred.

Secondary or higher schools in England and Wales and indeed in most Western European countries were at the time of their origin, and even down to a comparatively recent date, to a considerable extent institutions for the education of children, chiefly boys, either belonging to the more prosperous classes or selected for their ability. Schools designed to provide education for the mass of the people were not established till after Grammar Schools, and those institutions of university rank with which they were intimately connected, had long been in existence. Thus, whereas elementary or primary schools(1), provided on a large scale for the less affluent classes of the population, have developed from the ideas and necessities of modern times and have in general no very remote history, the Public (or non-local Grammar Schools) and the Grammar Schools of England and Wales, which may

(1) A large number of chantry schools and collegiate church schools came to an end in the reign of Edward VI.

broadly be described as schools of the academic type, have a long and interesting history going back to the Hellenistic and Roman Schools of rhetoric, such as the famous public school kept by Quintilian at Rome in the latter half of the first century of our era.

Curricula for higher schools, if they be carefully examined over any considerable period of time, will be found to reflect and reveal in a remarkable way the interplay of deep seated forces in the national life. These opposing forces are often characterised as liberal or conservative. More careful detailed study of the evolution of the traditional curriculum shows that the train of causation is highly complex and that such names only partially and imperfectly describe the character and significance of the forces at work. The history of the traditional curriculum bears witness to the unending struggle between rival philosophies of life and widely divergent theories of education and human development. These find expression in varying forms in succeeding generations in the controversies which centre round this or that aspect of education and training; for instance, the rival claims of a classical and a modern education; of the humanities and the sciences; of a general and a specific (technical) education. The real root of the problem which confronts us to-day is probably to be found in the increasing complexity of the political, economic and social background of modern life and the rapid growth of knowledge which make ever fresh demands on the schools and the teachers. It is becoming more and more evident that a single liberal or general education for all is impracticable, and that varying forms both of general and quasi-vocational education have to be evolved in order to meet the needs of boys and girls differing widely in intellectual and emotional capacity. New "subjects" are constantly obtruding themselves on the higher schools. Relief can only be found through a synthesis of claims and a constant reorientation of outlook resulting from greater insight and wider experience.

The Seven Liberal Arts: Trivium and Quadrivium

2. The conception of general education current throughout Western Europe in the Middle Ages which in England and Wales survived in a modified form down to the eighteenth century, was that of the seven liberal arts or sciences which were regarded as preparatory to the study of theology, law

and medicine.(1) Of these the *trivium*—grammar, rhetoric and logic, known as the *artes sermocinales*—were regarded as preparatory to the remainder, namely, arithmetic, geometry, music and astronomy, described as the *quadrivium*, or *artes reales vel physicae*.

The history and significance of the conception of the liberal arts are discussed in some detail in Appendix II to this Report.

When Universities developed in Western Europe from the thirteenth century, the three "philosophies", natural, mental and moral, were superimposed.

In the sixteenth century in England and Wales the traditional general curriculum for the Grammar School and the University, as distinct from the professional studies of divinity, medicine and law which were pursued at the University alone, was in substance the mediaeval seven liberal arts described above, but in them the balance of studies had been considerably modified. The *quadrivium*, comprising arithmetic, geometry, astronomy and music, belonged to the University; the *trivium*, consisting of grammar, rhetoric and logic, was rather unsystematically distributed between pupils in Grammar Schools and students in their first year at the University.(2) It must be remembered that in the sixteenth and seventeenth centuries, and to a great extent in the eighteenth century, youths were admitted to the Universities at the age of 15 or even earlier. Of the studies included in the *trivium*, the only one that was systematically taught in the Grammar

(1) See Appendix II to this Report. cf. The Abbé Fleury. *The History, Choice and Method of Studies*, (1686), English translation, London (1695), pp. 33–34.

"Thus, all studies were reduced in the twelfth century to four sorts of faculties. The fourth comprehended all preliminary studies which were accounted necessary to arrive unto the higher studies, which were called by the general name of the Arts.

"Under the name of the Arts were comprehended Grammar and Humanity; the Mathematics and Philosophy. But to speak properly this name ought only to comprehend the seven liberal arts which we find treated in Cassiodorus and Bede, viz., Grammar, Rhetorick, Logick, Arithmetick, Musick, Geometry and Astronomy. A Master of Arts should be one capable of teaching all these."

(2) M. Davies, *Athenae Britannicae* (1716)—II. 328.

"He (i.e. Robert Talbot about 1540) was educated in Grammaticals in Wikeham School near Winchester and at Newe College, Oxford, in Logicals and Philosophicals."

A. Wood, *Athenae Oxonienses* (1691), I, 12—

"John Constable educated in Grammaticals under William Lilye (at St. Paul's School); in Academicals in an ancient hostel (sometimes called Byeham Hall) at Oxford."

Schools in effect was grammar, which meant Latin literature(1), and in particular the necessary preliminary study of Latin grammar, which was regarded as the special 'business' of schools.(2)

The Grammar Schools, local and non-local

3. For some hundreds of years before the middle of the eighteenth century the typical school in England and Wales was the endowed Grammar School, which was generally regarded as the lower stage or feeder for "grammar scholars", who in due course were to proceed to be "artist scholars" at Oxford or Cambridge. One of the basic ideas of the Grammar School was that it was designed to send at any rate its more gifted pupils to the Universities. It was implicitly regarded as a *schola particularis* of the University which was the *studium commune vel generale*, and in theory at any rate its function was to instruct its pupils in the *trivium*. In practice, however, the principal aim of the Grammar School was to give some form of instruction in Latin, which down to the first half of the eighteenth century was still to a great extent the language of theology, law, science, and even diplomacy in Western Europe.

To quote a classic example, William of Wykeham in his foundation deed for Winchester College dated 20 October, 1382, after referring to his foundation of New College, Oxford (1379)—"a perpetual college of seventy poor scholars, clerks, to study theology, canon and civil law and arts in the University of Oxford"—laid down that his foundation of 'Seinte Mary College by Wynchestre', which he designed to feed New College, Oxford, was to consist of "seventy poor and

(1) cf. *Seuyn Sag* (W.) 106 (about 1320 A.D.)—
"He made the boke of Catoun (i.e. *disticha Catonis*) clere,
That is beginning of gramere."

(2) At Bruton Grammar School (1519) all scholars "as well poor as rich, were to be taught freely grammar after the form of Magdalen College, Oxford, or St. Paul's School, London, and not songs, or petite learning or English Reading, but to be made perfect Latin men." (*Schools Inquiry Commission Report* (1868), p. 121.)
It was not infrequently enjoined that Latin alone was to be spoken in school, e.g., Marlborough Grammar School (1550); Alton Grammar School (1641). (*S.I.C. Report*, p. 114.)
In a State paper of 1655 Grammar Schools are described as "ffree Schooles of Literature". cf. J. Brinsley, *Ludus literarius: or the Grammar Schoole* (1612); cf. also De Quincey, *Aut. Sketches* (1858), Works, II, 268.
"At the little town of Hawkeshead . . . a Grammar School (which in English usage means a school for classical literature) was founded."

needy scholars, clerks living college-wise in the same, studying and becoming proficient in grammaticals or the art, faculty or science of grammar."

In the same way Eton College, founded by King Henry VI in 1440 on the model of Winchester, was planned as a great non-local Grammar School(1) which was to pass its pupils on to King's College, Cambridge.

The teaching of grammar, described in William of Wykeham's foundation deed for Winchester College (1382) as " the foundation, gate and source of all the other liberal arts, without which such arts cannot be known, nor can anyone arrive at practising them," and in the foundation deed for Wotton-under-Edge Grammar School in Gloucestershire (1384) as " the foundation of all the liberal arts," was regarded as the distinguishing mark of higher education.

The most frequent terms in which founders described the schools which they intended to establish, were simply a " Grammar School," a " free Grammar School," or " a master to teach grammar."

That the teaching of the liberal science or art of grammar was regarded as the distinguishing mark of higher education is shown by the fact that in some cases an " English School " for the " pettys " was established side by side with the Grammar School, or, as it was sometimes called, " the Latin School."(2)

Some foundations were designed not only for grammar, but for elementary subjects as well, regarded usually as a preparation for grammar. For instance, Enfield Grammar School (1507) was " to teach children within the town of Enfielde to know and read their alphabet letters, to read

(1) Henry VI in his grant of a monopoly to Eton College for teaching Grammar and prohibition of other grammar schools in Windsor and ten miles round Eton dated 3 June, 1446, states that he has granted to the Provost and authorities of the Royal College of Eton that they and their successors " may always have within the boundaries of the said Royal College a public and general grammar school, and that the same school as it surpasses all other such grammar schools whatsoever of our kingdom in the affluence of its endowment and the pre-excellence of its foundation, so it may excel all other grammar schools, as it ought, in the prerogative of its name, and be named henceforth the King's general school, and be called the lady mother and mistress of all other grammar schools."

Chancery Warrants, Series I, file 1439. Quoted on pages 412–413 of *Educational Charters and Documents, 598 to 1909*, by A. F. Leach (Cambridge, 1911).

(2) The Grammar School founded in 1635 by the Puritan settlers at Boston, Massachusetts was known as the Latin School.

cf. The Vernacular Schools and Latin Schools described by Comenius: *Great Didactic* (1657) XXIX, XXX.

Latin and English, and to understand grammar, and to write their lateines according to the use and trade of grammar schools."

In a few cases a self-contained primary school was established. For instance Archbishop Rotherham, at his Jesus College at Rotherham, provided, in a Foundation Deed dated 1 February, 1483, for a writing school with a Fellow learned and skilled in the art of writing and accounts to act as Master to teach gratuitously the art of writing and reckoning " to the many youths endowed with natural capacity who do not attain to the dignity and height of the priesthood, but are fitted rather for the mechanical arts and other concerns of this world."

It was not however till after the Restoration in 1660 that numerous endowed schools were founded for primary education only.

The scholars, usually described in the school statutes as " children " or " youth " for whom the Grammar Schools were intended, were of no one class in particular. The school was to be for such as required an education in grammar, and among them there would be boys of all classes, but many more of those above the labouring class than of those in that class. The " poor " are frequently named in the school statutes, but rather in a way indicating a desire to keep the school available for them, than in expectation that they would in fact form the majority of the scholars.

The relation of the Grammar Schools to the Universities and to the system of apprenticeship

4. The statutes of Grammar Schools founded in the sixteenth and seventeenth centuries indicate clearly that the Grammar School was regarded as an institution primarily designed to prepare scholars to proceed to the Universities, from which they would in due course enter one of the three ancient learned professions or the profession of teaching. The Grammar Schools were thus from one point of view vocational schools orientated towards the Universities.(1)

(1) The Report of the Public Schools Commission (1864) stresses on page 13 the close connection between the nine great Public Schools and the Universities. " The great schools, again, have always educated principally with a view to the Universities; the path of access to the learned professions lies through the Universities; the work done at school tells thoroughly and directly on the examinations for admission to the Universities and for University prizes and distinctions, whilst it has not, until recently, assisted a youth to obtain entrance into the public service, civil or military, at home or in India; the cleverest and most diligent boys, for whom the system of study has been chiefly moulded, have gone to the Universities; all the masters have been University men."

The danger of sending too many "grammar scholars" to the Universities, and thereby overcrowding the learned professions, was always present to the minds of contemporary statesmen. A classic illustration is afforded by the following passage from a letter of 1611 from Sir Francis Bacon (afterwards Viscount St. Albans) to King James I, about Thomas Sutton's proposed foundation of a Hospital and School in the Charterhouse of Smithfield.

"Concerning the advancement of learning, I do subscribe to the opinion of one of the wisest and greatest men of your kingdom, that for grammar schools there are already too many, and therefore no providence to add, where there is excess. For the great number of schools which are in your Highnesses realm, doth cause a want, and likewise an overthrow; both of them inconvenient, and one of them dangerous; for by means thereof they find want in the country and towns, both of servants for husbandry, and apprentices for trade; and on the other side, there being more scholars bred than the State can prefer and employ, and the active part of that life not bearing a proportion of the preparative, it must needs fall out, that many persons will be bred unfit for other vocations, and unprofitable for that in which they were bred up, which fills the realm full of indigent, idle and wanton people, which are but *materia rerum novarum.*"[1]

In this context it is important to point out that there was a certain connexion, particularly in the seventeenth century, between the Grammar Schools with their orientation towards the Universities and the contemporary system of apprenticeship which corresponded to our modern system of technical education. In a number of endowed schools part

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[1] cf. Joseph Addison's Essay No. 21 in the *Spectator* on the overcrowding of the learned professions (1712).

Several great French statesmen and educationists of the 17th century were fully aware of the danger of producing too many scholars. For instance, Cardinal Richelieu in his *Testament Politique* (probably about 1640) writes :—

"Ainsi qu'un corps qui aurait des yeux à toutes les parties serait monstrueux, de même un État le serait-il, si tous ses sujets étaient savants. . . Le commerce des lettres bannirait absolument celui de la marchandise, et ruinerait l'agriculture."

The Abbé Claude Fleury (1640–1723) in his *Traité du choix et de la méthode des études* (1686) observes :—

"L'abus des études surcharge la république d'une infinité d'oisifs, qui se croient au-dessus de tout depuis qu'ils savent un peu le latin."

cf. also B. Mandeville, *Essay on Charity and Charity Schools*, (1722) p. 223—"The understanding of Latin thoroughly is highly necessary to all that are designed for any of the learned professions.....but to youth who are afterwards to get a livelihood in trades and callings.....it is of no use."

of the funds was allocated to binding boys to a trade after several years at school. A good illustration of this tendency is afforded by the statutes of Sir Thomas Cookes for Bromsgrove School (1693). Cookes gave an annual income of £50 to the School, £20 of which was paid to the schoolmaster for the gratuitous instruction of 12 foundation scholars in the English and Latin tongues and, if they were capable, in the Greek tongue also and to write and cast accounts. The remaining £30 was to be expended by the trustees on clothing the boys and paying premiums for boys after six years at school, "to be placed apprentice or put out to such trade as the trustees think proper."(1)

The curriculum of the Grammar Schools in the sixteenth and seventeenth centuries

5. The only grammar that was or could be taught in the Grammar Schools at first was Latin. Greek was added in the sixteenth century by many founders. The Reformation movement, by its insistence on Biblical study, helped to strengthen the position of Greek, and in a few cases also established Hebrew on the list of school studies. Arithmetic and Elementary Mathematics are rarely mentioned in early foundations. At Bungay (1592) "The school master and scholars were to keep school every Saturday and half-holiday till 3 o'clock in the afternoon for writing and casting accounts with the pen and 'counters' according to their capacities."

The statutes of Blackburn Grammar School (1597) suggest that "the principles of Arithmetic, Geometry, and Cosmography with some introduction into the sphere are profitable."

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(1) cf. Christopher Wase (1625–1690), sometime Master of Tonbridge School and supervisor of the University Press at Oxford, *Considerations concerning Free Schools, as settled in England* (1678), §24, p.53,—

> "Many of these foundations by their constitution or narrow revenue are only Nurseries of piety and letters, as *preparatory to trade*. This discrimination in every County duly made would depress the swellings of minds possessed with prejudice arising from the growing numbers of these houses of all sorts, yet supposed to prepare men for an unactive life only. . . . Some counties are slenderly provided of the conveniences of this education. . . . A free school is sometimes not erected, or without scholar, or without school-house, or unendowed, or without competent endowment, or arbitrary for a town's convenience, and revocable at the patrons pleasure: some wholly, very many in part, having stocks to bind out for husbandry or trade. . . . This preparation is not like to give terror to the State, though the provision may minister some relief to the Church."

In its main features, however, the ordinary grammar school curriculum up to the beginning of the nineteenth century reproduced the education in rhetoric described by Quintilian and inherited by the Western Church from the Roman Empire.(1)

The narrow and restricted character of the traditional curriculum in the Public Schools and Grammar Schools, representing as it did an all too faithful adherence to the form, if not to the real spirit, of the Renaissance, was largely due to the inert condition of the two ancient Universities in the seventeenth and still more in the eighteenth century. In the middle of the seventeenth century the conservatism of the Universities, which were steeped in the neo-scholastic tradition, was to some extent counteracted by the great movement which spread from Italy all over Western Europe for the establishment of scientific academies. In England a series of tentative proposals for founding a great society or academy for scientific research finally assumed concrete form in the Royal Society of London, which received its first Charter from Charles II in 1662. It is interesting to note the emergence of the idea of associating a school with a scientific society of this type. It appears, for instance, in Abraham Cowley's *Proposition for the Advancement of Experimental Philosophy* (1660), in which he suggested that a school should be attached to his philosophical college for scientific research.

The Courtly Academies

6. Even in the sixteenth and seventeenth centuries there was much criticism of the limited vocational aim of the Grammar Schools, based as it was on the requirements of the Universities and the learned professions. In particular, it no longer suited the needs of the upper classes, who desired their sons to be trained for posts at Court, for diplomacy and for higher appointments in the army. Meanwhile institutions based on the vocational needs of the governing class had developed on the Continent. They were known in France and in the German and Scandinavian States as knightly

(1) cf. H. I. Marrou, *Saint Augustin et la fin de la culture antique*, Paris (1938), pp. 47–157; 505–541.

R. M. Martin, article *Arts liberaux* in *Dictionnaire d'Histoire Ecclésiastique*, tome I. Paris, 1912.

or courtly academies.(1) They gave instruction to young nobles, not only in horsemanship and the use of arms, but also in modern languages, history and geography, and in the application of mathematics to military and civil engineering. A proposal for the establishment of a school on these lines in England was made by Sir Humphrey Gilbert in 1572, and in the following century Cowley, Locke, Defoe and many minor writers urged in vain that schools of this type should be established. The upper classes in England in the seventeenth century frequently entrusted the education of their sons to private tutors, and afterwards sent them to the knightly or courtly academies on the Continent. The development of these courtly academies on the Continent to meet the needs of the upper classes showed that the vocational motive was present. Incidentally, the development of this type of school designed for the governing class was one of a number of movements which reflected the maladjustment between the classical grammar schools and the needs of contemporary life.

The Mathematical Schools

7. In the latter part of the seventeenth century and the beginning of the eighteenth century there was a great development of sea-borne trade and a consequent demand for captains and officers for the mercantile marine who had an adequate knowledge of mathematics. This led to some interesting attempts to develop a specific or quasi-vocational education in some of the endowed schools on or near the sea coast. For instance, at Dartmouth Grammar School (1679) there was to be a master to teach Latin and another to teach English, the art of navigation and other mathematics.

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(1) The theory of this form of education, primarily designed for the governing class, was expounded by Baldassare Castiglione of Mantua in his treatise *Il Cortegiano* (The Courtier), 1528, translated into English by Sir Thomas Hoby in 1561.

Among the most famous courtly and knightly academies on the continent were the Mauritianum at Kassel (1599); the Knightly Academy at Soröe in Denmark (1623); the Académie Royale established at Richelieu's request by the Oratorians at Juilly in 1638, and the Academy founded by the Cardinal himself at Richelieu near Tours in 1640.

In 1635 an attempt was made to found in London, under the patronage of Charles I, an institution to be called Minerva's Musæum for the education of young noblemen in the liberal arts and sciences. cf. Bishop Joseph Hall's *Works* (1643), p. 358: "With what shame and emulation may we look upon other nations. They have their solemn academies for all those qualities which may accomplish gentility from which they return richly furnished both for action and for speculation."

A few other schools on or near the sea coast, such as Williamson's School at Rochester (1701), Neale's Mathematical School in Fetter Lane, London (1705), and Churcher's College at Petersfield (1722) made explicit provision in their statutes for the teaching of the " art of navigation and other mathematics."

The most characteristic development of this kind was at Christ's Hospital (1552), within which a " Mathematical School " for 40 boys was established in 1673. The boys were to be well grounded in grammar and common arithmetic and were to be taught " the whole science of arithmetic " and the art of navigation. They were then to be bound as apprentices for seven years to captains of ships. Books, maps, globes and mathematical instruments were ordered for the instruction of the boys, who were to remain at school till the age of 16. Though this mathematical school enjoyed royal patronage and was supported in various ways by Pepys, Halley, Sir Isaac Newton and other eminent mathematicians of the period, it was a comparative failure up to the latter half of the eighteenth century, largely owing to incompetent management.(1)

The Nonconformist Academies

8. During the Commonwealth many proposals were made for modifying the traditional courses in schools and Universities, but the liberal movement received a check at the Restoration which tended to make the endowed Grammar Schools even more conservative than heretofore.

The policy of ecclesiastical uniformity adopted after 1660 further reinforced the static tendencies of the Grammar Schools and compelled many youths to seek on the continent a training foreign both in aims and in means. Their criticisms of the conventional curriculum on their return to England must have indirectly added to the widespread dissatisfaction which became still more acute after the industrial revolution. During the eighteenth century the endowed schools remained impervious to new ideas, and their tenacious adherence to

(1) " In fact it had everything in its favour—endowment, a plentiful supply of scientific instruments, a complete set of class-books—everything except the requisite personal impulse which can only come from settled and sympathetic instruction. The history up to the latter half of the eighteenth century is one long story of inefficient, ineffective teachers, and one may add of a good deal of incompetent management." (E. H. Pearce, *Annals of Christ's Hospital*, pp. 98–134.)

ancient custom further stimulated the growth of a body of public opinion hostile to the traditional curriculum.

The celebrated controversy in England at the end of the seventeenth century between the 'ancients' and 'moderns' was indicative of the change that was gradually taking place in conceptions of curriculum, and of the demand for 'useful studies', which became so insistent towards the close of the eighteenth century and which may already be traced in Locke's treatise *Some Thoughts concerning Education* (1693).

The Nonconformist Academies, established in considerable numbers from 1670 onwards, though at first intended for the education of ministers, received many lay pupils.(1) They often provided a wide curriculum, including (in addition to the traditional Greek and Latin), English, Modern Languages, Mathematics and a certain amount of Natural Science, principally Physics. Moreover, they were far less insular than the Grammar Schools and were influenced indirectly by educational developments in Scotland, Holland, Germany and the Protestant cantons of Switzerland.

For instance, the Academy at Newington Green (1666–1706) had a garden, a bowling green, a fishpond, a laboratory, an air pump, a thermometer and mathematical instruments of various kinds. At the Sherriffhales Academy (1663–1697), in Shropshire, practical exercises accompanied the course of lectures and the students were employed at times in surveying land; composing almanacs, making sun-dials of different construction and dissecting animals. The celebrated Joseph Priestley (1733–1804), who taught for several years at the Warrington Academy, published in 1765 his essay on *A Course of Liberal Education for Civil and Active Life*, in which he stresses the importance of English, History, Geography, French, Practical Mathematics with some Algebra and Geometry, Chemistry and sufficient Latin to read the easier classics. He urges that the whole plan of education from the grammar school to the finishing university should be designed for the use of the general students as well as for those intended for the professions.

When Protestant Nonconformists were legally allowed to follow the teaching profession by an Act of Parliament passed in

(1) I. Parker, *Dissenting Academies in England* (1914).
H. McLachlan, *English Education under the Test Acts* (1931).

1779(1), a large number of new private schools, partly modelled on the older dissenting academies, were established, especially in London and industrial towns such as Birmingham and Manchester, to meet the needs of manufacturers and merchants who demanded a more practical education for their sons than that provided in the endowed schools. These commercial academies and private schools undoubtedly had many faults, but they were more receptive of new ideas and more ready to experiment than the old endowed Grammar Schools, and subsequent reforms in the curriculum can be largely traced to their influence.

The Public Schools and Grammar Schools down to 1840

9. The Grammar Schools, local and non-local, with their narrow curriculum almost confined to Greek and Latin, were not able to meet the new demands for courses of training and education fitting boys for the life of the period. This dissatisfaction with the traditional curriculum was well expressed in Locke's *Thoughts Concerning Education* (1693) in which he stressed the importance of a broader intellectual training, moral development and physical hardening. Locke's low opinion of the contemporary curriculum is shown by his statement that "Of a great part of the learning now in fashion in the schools of Europe . . . a gentleman may in good measure be unfurnished with, without any great disparagement to himself or prejudice to his affairs."(2) Locke's view on the value of private education by tutors rather than public education found wide acceptance among the upper

(1) 19 Geo. III, c. 44. An Act passed in 1791 (31 Geo. III, c. 32, §§ 13–17) extended a like measure of liberty to Roman Catholics. Several of the English Colleges in France were transferred to England after the Revolution. For example, St. Edmund's College, Ware, founded as a private school for Roman Catholics in 1769, received in 1795 the southern half of the students from the English College at Douai, while the northern students from Douai settled at St. Cuthbert's, Ushaw. In the same way, the Benedictine Schools at Downside (1792 and 1814) and Ampleforth (1802) represent schools transferred by the Order from France after the Revolution. Several of these schools long retained traces of the French tradition of secondary education. For instance, the top Forms at Downside were called Rhetoric and Poetry and the boys who had passed the London Matriculation were called "philosophers." Dom Birt: *History of Downside School*, p. 243.

(2) Edward Leigh writing in 1663 described Eton, Winchester and Westminster as "trivial" schools, i.e. as teaching only Grammar and Rhetoric, since Logic, the third subject of the *trivium*, had dropped out.

classes who frequently throughout the eighteenth century educated their sons at home by tutors and then sent them on the 'grand tour' either with or without a period of residence at Oxford or Cambridge. Throughout the greater part of the eighteenth century there was a marked decline in the numbers of the pupils at Grammar Schools and of students at the Universities. The middle classes frequently sent their sons to small private schools. Towards the end of the eighteenth century the boys attending the non-local Public Schools, such as Eton, Winchester, Westminster, Harrow, Rugby and Shrewsbury, tended to be drawn from the upper and wealthier classes.

A book entitled "*Liberal Education or a Practical Treatise on the Method of Acquiring Useful and Polite Learning*," published in 1787 by Vicesimus Knox, Head Master of Tonbridge School from 1778 to 1812, gives a good general idea of the aims and methods of the more efficient Grammar Schools towards the end of the eighteenth and the beginning of the nineteenth century. Knox, who was a vigorous upholder of the "established manner" in education, regarded Latin and Greek as the basis of all sound instruction, but thought it desirable, when this foundation had been laid, to include Modern Studies. Classical teaching should consist chiefly of the grammar of the two languages and the composition of prose and verse in both. To these basic studies might be added the elements of History and Geography, some Mathematics, French and accomplishments such as Drawing, Music and Fencing, though Knox himself approved more of "dancing and the learning of the military exercises which is now very common." Boys were expected to read English books and easy Latin books in their leisure time. It is clear from the stress which Knox lays on the inadequacy of the education given in many private schools, which prepared boys for business and office life, that the established classical curriculum did not entirely meet the needs of the middle classes. Knox asserted that, though these academies professed to teach many subjects, their success was in fact confined to reading, writing and summing.

The seventeenth and eighteenth centuries were marked by great advances in various branches of science and by the development of rich vernacular literatures in the countries of Western Europe, and many protests were raised in different quarters against the narrowness of the traditional

curriculum.(1) Nevertheless, the endowed schools, both local and non-local, supported by the conservatism of the old Universities, successfully resisted all attempts at reform. There is evidence to show that a considerable number of endowed Grammar Schools tried to provide an education of a more modern type alongside the traditional classical curriculum. For instance, 183 boys, of whom 153 were boarders, went from Manchester Grammar School to the University between 1749 and 1784. Most of the local day boys at that period left school about the age of 12, either to go into trade or to get a more vocational training at a commercial academy.(2)

At Stafford Grammar School, about 1820, Ward's edition of Lilly's Latin Grammar and the Westminster Greek Grammar were used, " but as not a sixth part of the boys ever wish to learn the Classics, being principally destined for commerce and manufacture, the system of education is chiefly directed to English Grammar, Writing and Arithmetic. This system has been adopted by the present masters in the last 20 years."(3)

At Odiham Grammar School, in Hampshire, the course in the latter part of the eighteenth century included systematic teaching in English.(4)

In 1805 Lord Eldon, accepting Dr. Johnson's definition of a Grammar School as " a school in which the learned languages are taught grammatically," ruled in the Court of Chancery that no part of the funds of the Leeds Grammar School could be expended in engaging teachers of French or German or in creating a subsidiary department for commercial training. His judgment was upheld by subsequent decisions and this state of affairs continued till the passing of the Grammar School Act, 1840.(5) In a few instances the governors of well endowed grammar schools were able to incur the expense of securing the passing of a private Act of Parliament to

(1) cf. Robert Lloyd : *A Schoolmaster's Life* (1750)—
" Still to be pinioned down to teach
The syntax of the parts of speech :
Or, what perhaps is drudgery worse
The limbs and joints and rules of verse."

(2) Mumford : *History of Manchester Grammar School*, p. 193.

(3) Carlisle : *Endowed Grammar Schools* (1819), II, p. 491.

(4) B. Webb : *An Essay on Education*, Reading (1782).

(5) A process for revising charitable foundations in cases of breach of trust had, however, been provided by Romilly's Act, 1812, 52 Geo. III, c. 101.

enable them to enlarge the scope of the original Foundation. For instance, in 1838 a private Act was passed to enable the Governors of Macclesfield Grammar School to establish a second school to be called the Modern Free School, at which instruction should be given "in writing, arithmetic, mathematics, the modern languages and in such other branches of education (exclusive of the learned languages) as the Governors shall for that purpose from time to time direct."

The static condition of the education given in most of the Public Schools and Grammar Schools down to 1840 or even later was largely due not only to the predominant influence of the two old Universities, but also to the fact that they were endowed foundations. Few institutions are so proof against change as foundations supported by endowment, and consequently to a great extent independent alike of external control and of popular demand. Thus, till the middle of the nineteenth century the endowed schools of England and Wales were, for the most part, in a back-water, and their pious founders determined from the tomb their studies and their methods of instruction long after changes in the circumstances of the districts or of the pupils had made the founders' statutes inappropriate, or the development of educational theory had rendered them obsolete.

The Grammar Schools have had very varied histories. Some with slender endowments gradually fell into decay; some became in practice elementary schools, and most of them were distracted by the varying claims of different classes of boys who required different kinds of training. Nevertheless, many small Grammar Schools continued till the middle of the nineteenth century or even later to take the sons both of the lower middle class and of the gentlefolk of the neighbourhood, sending boys not infrequently to the Universities and producing from time to time some distinguished scholars. Meanwhile, certain well-endowed educational foundations, some of which, such as Eton, Winchester and Westminster, had always been non-local, and some of which, such as Harrow, Rugby and Shrewsbury, became non-local in the eighteenth century, came to be regarded as the proper places of education for the sons of the gentlefolk; and those who could afford the expense became anxious to send their sons from a distance to them. There thus grew up the practice of sending boys to boarding schools, and ultimately a preference for boarding schools as opposed to day schools.[1] The reforms in discipline and

[1] cf. J. L. Brereton, *County Education*, 2nd ed. 1861, p. 2.

corporate life effected by Dr. Arnold during his tenure of the headmastership of Rugby (1828–42), which spread to other Public Schools, together with the facilities for travelling afforded by the new system of railways, tended to increase the prestige of a few great schools among the affluent classes and particularly the new class of wealthy manufacturers. From these different circumstances there arose a class of Public Schools which maintained a high standard of efficiency, but at a cost which confined them to the wealthier classes. Meanwhile, the habit of founding Grammar Schools gradually died out towards the end of the eighteenth century; also, owing to the industrial revolution there was a great increase in the population, and the distribution of it was wholly changed. Many of the old Grammar Schools were situated in thinly populated areas, and on the other hand in many new and populous neighbourhoods there was no provision of higher schools. The absence of Grammar Schools in some places and their inefficiency in others afforded an opening for private venture, and over a large part of the country " Commercial Academies " and private schools became the recognised means of education for the middle and lower middle classes.

Attacks on the traditional curriculum

10. The narrow range of studies in vogue at the Public Schools and the Universities of Oxford and Cambridge was vigorously attacked by writers in the *Edinburgh Review* in 1809 and 1810. These articles pointed out that the principal defect of the Public Schools was excessive devotion to Latin and Greek to the exclusion of modern subjects. It was absurd to regard the classics as the only test of a cultivated mind. A place should be found for modern history, modern languages, geography, chronology, experimental philosophy and a considerable amount of mathematics. The attack was renewed in the *Edinburgh Review* in 1830 in an article chiefly devoted to Eton—" The most precious years are spent, not in filling the mind with solid knowledge; not in training it to habits of correct and patient thought; but in a course of half-studious idleness (1), of which the only lasting trace is the recollection of misspent time."

James Pillans (1778–1864), Professor of Humanity at Edinburgh University, who was for some time a private

(1) In point of fact one of the best features in the arrangements at Eton and Winchester at this period was that the boys had a good deal of free time for general reading, etc.

tutor at Eton, gives an interesting description of the curriculum at the great Public Schools about 1823 in his *Rationale of Discipline*, written in 1823 and published in 1851.

"In the great schools of England—Eton, Westminster, Winchester and Harrow, where the majority of English youth who receive a liberal and high professional education are brought up—the course of instruction has for ages been confined so exclusively to Greek and Latin that most of the pupils quit them not only ignorant of, but with a considerable disrelish and contempt for, every branch of literature and scientific equipment, except the dead languages. It may be said that there are in the immediate neighbourhood of the College, teachers of Mathematics, Writing, French and other accomplishments to whom parents have the option of sending their sons. But as these masters are extra-scholastic—mere appendages, not an integral part of the establishment—and as neither they nor the branches of knowledge they proffer to teach are recognised in the scheme of school business, it requires but little acquaintance with the nature of boys to be aware, that the disrespect in which teachers so situated are uniformly held extends, in young minds, to the subjects taught and is apt to create a rooted dislike to a kind of instruction which they look upon as a work of supererogation. And this, we venture to say, is all but the universal feeling at Eton."(1)

The fourth decade of the nineteenth century was a period of great unrest both in primary and secondary education (2), and the traditional curriculum and current ideas about education were subjected to severe examination and criticism in the publications of the Central Society of Education, founded in 1837. The following passage from an article by Thomas Wyse (1791–1862) (afterwards Sir Thomas Wyse), entitled *Education Reform* (1837), gives a vivid picture of the state of secondary education at the time:—

"In no country is the strife between the new and the old educations more vehement—the education which deals with mind as spirit and that which deals with it as matter. In no country are there greater anomalies—greater differences

(1) James Pillans: *Contributions to the Cause of Education*, London (1856), p. 271.

(2) The general unrest in higher education in Western Europe in the 'thirties may be seen from the fact that the Jesuits found it necessary to revise in 1832 for the first time since 1599 their famous *Ratio atque Institutio Studiorum* (1599).

not merely in the means, but in the ends of education . . . it runs through the entire system."(1) Such was the position of education in England according to Wyse at the time of the first Parliamentary grants for elementary education (1833).

He adds: "If we find in the country and town schools little preparation for occupations, still less for the future agriculturalist or mechanic, we find in the Grammar Schools much greater defects. The middle class in all its sections, except the more learned professions, finds no instruction which can suit its special middle class wants. They are fed with the dry husks of ancient learning when they should be taking sound and substantial food from the great treasury of modern discovery. The applications of chemical and mechanical science to everyday wants—such a study of history as will show the progress of civilisation—and such a knowledge of public economy in the large sense of the term as will guard them against the delusions of political fanatics and knaves, and lead to a due understanding of their position in society, are all subjects worth as much labour and enquiry to that great body, as a little Latin learnt in a very imperfect manner, with some scraps of Greek to boot—the usual stunted course of most of our Grammar Schools."(2)

Though educational reformers such as Pillans and Wyse, and a large section of the middle classes, were profoundly dissatisfied with the curriculum in vogue in the Public Schools and the Grammar Schools, nevertheless these schools, which were the resort of the governing classes of the time, had many defenders. For instance Vicesimus Knox published in 1821 a vigorous defence of the Grammar Schools in opposition to a Bill presented to Parliament in 1821 authorising the authorities of Grammar Schools to allow English, Writing and Accounts to be added to the classical curriculum.(3)

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(1) Sir Thomas Wyse was considerably influenced by Rousseau. His ideas on education are not unlike those of R. L. Edgeworth (1744–1817). See Edgeworth's *Practical Education* (1798).

(2) cf. the following passage from *The Aims of Education and other Essays* by Professor A. N. Whitehead (1929), p. 2.

> "In the history of education, the most striking phenomenon is that schools of learning, which at one epoch are alive with a ferment of genius, in a succeeding generation exhibit merely pedantry and routine. The reason is, that they are overladen with inert ideas."

(3) Knox, V. *Remarks on the Tendency of Certain Clauses in a Bill now pending in Parliament to Degrade Grammar Schools*, etc., London (1821).

Again, the writer of the article on Education in the *Penny Encyclopaedia* (1845) states that the endowed schools were still the best all-round schools in England.

Educational Experiments

11. The writers of the articles in the *Edinburgh Review* cited above held that it was impracticable to reform the Public Schools, and suggested that educational experiments should be carried out in other schools. There were, however, few organisations or individuals who were prepared to experiment. The Protestant Nonconformists, who had been allowed to follow the teaching profession by an Act passed in 1779, though they were still excluded from the Universities and the Public Schools, made comparatively little use of the opportunities thus afforded. Mill Hill School, founded by the Congregationalists in 1807, which was organised on public school lines partly on the advice of Dr. Keate, Head Master of Eton, had from its inception a curriculum somewhat wider than that in vogue in the ancient foundations. In addition to Classics the boys devoted a considerable amount of time to Mathematics, including Algebra, Euclid and Trigonometry; French was taught by a Frenchman and courses of lectures were given on natural and experimental philosophy; drawing was taught by "an artist of respectability;" and history, English reading, elocution and ancient and modern geography formed an integral part of the school course. The schools established in the first half of the nineteenth century by the Society of Friends showed a noticeable tendency to break away from the trammels of the traditional curriculum. Special attention was devoted to the study of English and particularly to oral reading and composition, and the pupils were frequently required to write descriptions of excursions, lectures and other incidents of school life. Considerable attention was also given to natural history, elementary natural science, geography and manual work of various kinds.

The most remarkable experimental school at this period was the private school conducted from 1819 by the Hill family at Hazelwood, near Birmingham, and later at Bruce Castle in Tottenham. The salient features of these two schools were the breadth of the curriculum and the arrangements for self-government.(1) The younger pupils, who were taught

(1) These two schools are described in *Plans for the education of boys in large numbers, as practised at Hazelwood School* (1825) and in *Sketch of the system of education, moral and intellectual, in practice at the schools of Bruce Castle, Tottenham, and Hazelwood, near Birmingham.*

See also the criticisms on the curriculum at Hazlewood School, by W. L. Sargant, *Essays of a Birmingham Manufacturer, II* (1870), 181ff.

in a separate classroom, were kept together for all subjects while the remainder were grouped and re-grouped for each branch of study. The course in the eight classes of the school included orthography, geography, parsing, shorthand, mathematics, French, Greek and Latin. The first geography class was composed of members of the highest French class and was taught by the French master in French, "improvement in French being quite as much the object as the acquisition of geographical knowledge." Modern languages were taught as early as possible.

A description of the school published in 1833 states that fencing, dancing and music were taught by visiting teachers and that lectures in natural philosophy were also provided. There was systematic instruction in swimming and gymnastics, and boys with practical tastes were encouraged to take up subjects such as drawing, etching, painting, map-making, surveying, making mathematical diagrams, making machines, printing at the school press, reporting debates and trials before the school jury, and music. Many of the arrangements show the influence of Pestalozzi (1746–1827). For instance, mapping was carried on out of doors in association with surveying. Adequate facilities and rewards were provided for voluntary work in a series of activities, many of which were manual, and much stress was laid on civic and moral training. The government of the school was vested in the headmaster, the teachers and a committee of boys who were elected once a month and met weekly to frame rules and regulations. The school had a judge, a keeper of records, an attorney-general, a constable and a jury appointed by lot. There was a weekly conference of the teachers, dealing with instruction rather than government. The school attracted much attention at the time and De Quincey wrote an article about it in the *London Magazine* in 1834.

The gradual enrichment of the traditional curriculum in some of the Public Schools

12. It is broadly true to say that till some time after the passing of the Grammar Schools Act, 1840 (1), the two classical languages with the elements of History and Geography held a decided predominance over the whole course of study in most endowed schools.

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(1) An Act for Improving the Condition and Extending the Benefits of Grammar Schools. 3 and 4 Vict. c. 77.

At Eton, Rugby, Shrewsbury and some other schools, French, Arithmetic, Writing and Drawing were taught on half-holidays by "masters of accomplishments." One of the most progressive of the endowed schools in the first half of the nineteenth century was Shrewsbury, where the curriculum was carefully reorganised under Dr. Samuel Butler, Head Master from 1798 to 1836. The course was still mainly classical, but more attention was given to Greek than was usual in most schools, and English, Geography, Algebra, Euclid and English History formed part of the ordinary work of the Fifth and Sixth Forms. The boys had a considerable amount of time for private reading, to which Butler attached great importance. He introduced promotion by merit and periodical school examinations for the Upper Forms in which an English theme played an important part. Butler's successor, Dr. B. H. Kennedy, made French a part of school "business" in 1836, appointed a German master in 1837, and in 1836 added Mathematics to the regular school curriculum.

Butler's work as a reformer of the traditional curriculum was further developed by Dr. Thomas Arnold, who was Head Master of Rugby from 1828 to 1842. Regarding the formation of moral principles and habits as the most important part of education, Arnold assigned a leading place to History and other forms of instruction calculated to develop character. Under the system which he had established at Rugby by 1835 the boys were taught in three divisions—Classical, Mathematical and French. The Sixth Form remained the same in *personnel* for all studies. Classics formed the core of the curriculum, but were supplemented by instruction in French and Mathematics (including Arithmetic, Algebra and Geometry), which were taught by the classical form masters. The curriculum also included English, German, Ancient History and Modern European History. The teaching of Ancient History was partly based on a first hand study of Greek and Roman historians; and the French texts read in the Sixth Form included some of the historical works of Guizot and Mignet.

Arnold devoted much attention to developing the corporate life of the school and exercised a profound influence over his prefects. Apart from the fact that he brought neo-humanistic ideas to bear on the traditional classical studies he did comparatively little to enrich the traditional curriculum. On the other hand his far-reaching reforms in the corporate and

social life of the school did much to rehabilitate the Public Schools in popular esteem, and prepared the way for the foundation of a number of new proprietary schools on public school lines which are described in the following section.

Arnold's successor, Dr. Tait, afterwards Archbishop of Canterbury, appointed a special teacher of modern languages at Rugby to whom the classical form masters might transfer their pupils. Tait also appointed two special mathematical teachers for the whole school instead of requiring all classical masters to teach Mathematics. Physics under the name of "Natural Philosophy" became a subject of instruction at Rugby in 1837 and a Physics laboratory was erected in 1859. The Report of the Schools Inquiry Commission (1868), which is summarised in Section 15, shows that the reforms introduced by Butler and Arnold spread rather slowly except in the larger schools.

The curriculum devised for Uppingham by Edward Thring, Head Master from 1853 to 1887, is of interest on account of its recognition of the importance of the teaching of English and of the aesthetic subjects, especially Music and Art. The ordinary school subjects, Classics, English Composition, on which great stress was laid, Scripture, History and Geography, were taken in the morning. In the afternoon came Music and various optional subjects of which every boy had to take one or two, such as French, German, Chemistry, Carpentry, Turning and Drawing. Thring was one of the first head masters to assign to Music a prominent place in the school by making attendance at singing classes and music lessons compulsory. He also attached great importance to systematic physical exercises and to hobbies. The Uppingham gymnasium, opened in 1859, was the first of its kind in any English Public School, as were also the workshops, laboratories, school garden and aviary. It was largely owing to the indirect influence of Thring's methods that school activities outside the classroom developed so rapidly after 1868. The older endowed schools had already systematic organised games, school magazines and debating societies, and these spread rapidly to the smaller schools. In the same way systematic gymnastics were introduced on the Uppingham model into most schools. School plays, concerts, natural history societies and other out-of-school activities were developed somewhat later.

The rise of Proprietary Schools, boarding and day

13. Arnold's work at Rugby (1828–1842), as has been said above, restored the prestige of the large boarding schools among the middle class who welcomed the social and moral training which they offered. The demand for more boarding schools of the public school type, which coincided with the rapid increase in wealth of the middle classes, and the construction of the new system of railways facilitating means of communication, led to the establishment of a considerable number of new boarding schools, partly by stockholding companies. The most famous schools of this type were Cheltenham College (1841), Marlborough College (1843), Rossall School (1844), Radley College (1847), Wellington College (1853), Epsom College (1855), Bradfield College, (1859), Haileybury (1862), Clifton College (1862), Malvern School (1863) and Bath College (1867). These institutions, described in the Report of the Public Schools Commission (1864) as proprietary schools, were designed to make boarding schools accessible to those sections of the middle class who found difficulty in paying the fees of the older and more expensive Public Schools.

To the same end Canon Nathaniel Woodard (1811–1891) founded in 1848 the Woodard Society to provide Anglican boarding schools for the various sections of the middle class. Thus Lancing was founded for the gentry, Hurstpierpoint for the upper middle class and Ardingly for the lower middle class.[1] One outcome of Arnold's influence was appreciably to arrest the movement for the foundation of day proprietary schools, which had begun in the third decade of the nineteenth century. Among the most important day schools of this type were the Liverpool Institute (1825), King's College School (1829), University College School (1830), Blackheath Proprietary School (1831), the City of London School (1837) and Liverpool College (1840).

These new schools, being untrammelled by the statutes of founders and being in most cases without endowment, were obliged to make an effort to respond to the needs of the time and to offer an education which, if from one point of view liberal, was also controlled to a considerable extent by the vocational aim.

[1] Dr. K. E. Kirk, Bishop of Oxford, *The Story of the Woodard Schools* (1937).

The vocational motive is specially apparent in the arrangements at Cheltenham College (1841), which had from its inception a Modern (or Military and Civil) Department designed primarily to prepare boys for Woolwich and Sandhurst, for appointments in government offices, for engineering or for commercial life. The main study was Mathematics, and though Latin was to a certain extent retained, Greek was omitted, Natural Science was introduced and more stress was laid on Modern Languages. The lower forms were carefully grounded in Latin, English, History and Elementary Mathematics.

Several of these new schools besides Cheltenham had developed modern sides. For instance, King's College School had a modern department which contained in 1862 almost as many boys as the classical department. The City of London School also had a modern side. One aim of these modern departments was to prepare boys for definite examinations, in which they would not have succeeded if they had competed direct from the classical department. Amongst these examinations were those for Woolwich and Sandhurst, which at Cheltenham College " mainly guided the reading of the higher classes in the modern department."

The Emergence of Middle Class Schools

14. There was a large section of the middle and lower middle classes who either could not afford to send their sons to the Public Schools and the Grammar Schools or to the new proprietary schools, or who desired a more modern type of education at a lower cost.(1) Many of them sent their children to private boarding or day schools. The chief defects of these private schools, which were later described in detail in the Report of the Schools Inquiry Commission (1868) and the ancillary Reports of the Assistant Commissioners who inspected schools for that Commission, were the absence of standards and the interference of the parents, who were apt

(1) The middle classes had been enfranchised by the Reform Act, 1832, and exercised great political influence from then till the successive extensions of the franchise in 1867 and 1884. A large number of new avocations which demanded an education of a super-primary type, though not necessarily of the grammar school type, were becoming available for boys in the first half of the nineteenth century, e.g. the Stock Exchange; Insurance in its various branches; posts connected with Municipal Corporations, after the passing of the Municipal Corporations Act, 1835; posts connected with the administration of the Poor Law, after the passing of the Poor Law Amendment Act, 1834; posts as officials of the numerous Gas and Water Companies, etc., etc.

to impose a utilitarian curriculum on some at any rate of these schools. Dr. Arnold, writing in 1832, thus described the Commercial or English Schools at which a considerable proportion of the sons of tradesmen and farmers received their education: "In some instances they are Foundation Schools, but more commonly they are private undertakings entered upon by individuals as a means of profit for themselves and their families. The pupils receive instruction in Arithmetic, History, Geography, English Grammar and Composition."....." The rudiments of Physical Science are also taught in them, and with a view to his particular business in life he learns Land Surveying if he is to be brought up to agricultural pursuits, or Bookkeeping if he is intended for trade."

There was, however, especially after the passing of the Reform Act of 1832, a very considerable popular demand for this type of school in order to complete an elementary education with a course of two or three years of studies of a utilitarian character designed as a preparation for a business career. Some of the Grammar Schools and the new proprietary schools (e.g., Manchester Grammar School and the Liverpool Institute) set up distinct departments to provide such a course. In Manchester the Church Education Society opened in 1846 the first of four "Commercial" Schools. This school provided a modern curriculum including French, German and Drawing. The National Society for Promoting the Education of the Poor in the Principles of the Established Church, founded in 1811, began about 1838 to interest itself in the question of establishing Middle Schools designed to offer the middle classes at moderate fees a good general education based on Church principles. The Society accordingly began to graft superior schools on to its already existing Normals Schools. Thus a Middle School, sometimes known as the Yeoman School, was founded at York attached to the Church Training College. It was arranged in six classes, the lowest class containing some children of the ages of 5 and 6. In addition to the three R's, Grammar, Latin, History and Mensuration were taught. Schools of like type were founded by the Society at Canterbury, Lincoln, London and elsewhere.

In Devonshire a scheme was started about 1855 to provide middle class County Schools for the sons of farmers and others concerned in agriculture. It was proposed to teach in these schools, in addition to the three R's, English, History,

and Religious Instruction, Mathematics including Arithmetic, Algebra, Euclid and Trigonometry, Bookkeeping, Mensuration and the elements of Political Economy. Latin, Chemistry, Mechanics, European History and Music were suggested as extra subjects.

In some cases after 1869 middle class schools were engrafted on to ancient grammar school foundations by the Endowed Schools Commission (1869–1874) and the Charity Commission (1874–1902), e.g., the Middle School for Boys at Tiverton.(1)

The views of the Public Schools Commission (1861–1864) *on the traditional curriculum*

15. In 1861 the Government appointed a Royal Commission with Lord Clarendon as Chairman to inquire into the administration of nine great Public Schools.(2) The Report of this Commission, published in 1864, is of much interest not only as marking the beginning of direct State intervention in the affairs of the endowed schools (3), but also as illustrating contemporary views on the curriculum for boys. The constructive suggestions of the Commissioners on the curriculum show the strength and vitality of the classical tradition, and indicate that the Commissioners had sought to justify their adherence to this tradition in a modified form by taking as their model the Prussian *Gymnasium* of the period, with its ideal of neo-humanistic 'general culture' deriving from the reforms introduced by Wilhelm von Humboldt in 1809.(4) The Commissioners were of opinion that the course of study provided in the nine great Public Schools was sound and valuable in its main elements, Latin and Greek, but was lacking in breadth and flexibility. The position held by the different studies in a school was determined by several considerations: their admission into or exclusion from the school course; the

(1) See Section 18 of this Chapter.

(2) The Public Schools Commission only dealt with nine ancient foundations, viz., Eton, Winchester, Westminster, Charterhouse, St. Paul's, Merchant Taylors', Harrow, Rugby and Shrewsbury, whereas the Schools Inquiry Commission which sat from 1864 to 1868 dealt with secondary schools as a whole, i.e., all that lay between the nine great Public Schools and "the education of boys and girls of the labouring class" which had been dealt with by the Newcastle Commission (1858–1861).

(3) The State had already intervened indirectly in the management of charitable and educational foundations by Romilly's Act, 1812, 52 Geo. III, c. 101, and by the Grammar Schools Act 1840.

(4) See Appendix II to this Report, pp. 408–9.

time allowed to them; the value assigned to them in examinations and in promotion within school. At all nine schools Arithmetic and Mathematics were taught. In all except Eton there was instruction in one modern language, either French or German, and at Rugby and Charterhouse instruction was given in both. At Rugby, Natural Science was taught to boys who elected to study it instead of languages. Lectures on it were given at Winchester and occasionally at Eton. The Commissioners pointed out that Natural Science was thus practically excluded from the education of the higher classes in England, "a plain defect and a great practical evil." Drawing might be taken as an extra and some instruction in Music might generally be obtained in the same way. In their general observations on the subjects approved for school courses the Commissioners strongly supported the classical tradition. "For the instruction of boys, especially when collected in a large school, it is material that there should be some one principal branch of study, invested with a recognised and, if possible, a traditional importance, to which the principal weight should be assigned, and the largest share of time and attention given.

"We believe that this is necessary in order to concentrate attention, to stimulate industry, to supply to the whole school a common ground of literary interest, and a common path of promotion.

"The study of the classical languages and literature at present occupies this position in all the great English schools. It has, as we have already observed, the advantage of long possession, an advantage so great that we should certainly hesitate to advise the dethronement of it, even if we were prepared to recommend a successor."

The Commissioners thus regarded Classics as the principal study, but held that the main object for which boys learned Latin and Greek was to teach them to use their own language. They recommended that in addition to Classics and religious teaching all boys should learn Arithmetic and Mathematics and at least one modern language, which should be either French or German; one branch at least of Natural Science and either Drawing or Music. Boys should also acquire some general knowledge of Geography and English History, some acquaintance with modern History and a command of pure grammatical English. Mathematics should include the elements of Geometry, Algebra and Plane Trigonometry; Natural Science should, where practicable, include two

main branches, one comprising Physics and Chemistry and the other Comparative Physiology and Natural History. These recommendations for the teaching of Natural Science were apparently taken direct from the arrangements then in force for the teaching of *Naturkunde* in the Prussian *Gymnasium*, which assigned to that study one hour a week out of 28. The Commissioners also regarded Geography as ancillary to History (1), as it was at that time in the Prussian *Gymnasium*.

The Report of the Schools Inquiry Commission (1864–1868)

16. The Report of the Public Schools Commission directed attention to the need for a comprehensive investigation of the state of secondary education in England and Wales, and the Government accordingly appointed in 1864 a Royal Commission, under the Chairmanship of Lord Taunton, to inquire into the education given in schools not included within the terms of reference of the Public Schools Commission, " and also to consider and report what measures (if any) are required for the improvement of such education, having especial regard to all endowments applicable or which can rightly be made applicable thereto."

The Report of this Commission, which is usually known as the Schools Inquiry Commission, was published in 1868. It throws much light on contemporary ideas regarding the curriculum.

The Commissioners reported that in general the distribution of secondary schools throughout the country was inadequate, particularly in the more populous areas. There seemed to be no clear conception of the purpose of secondary education(2),

(1) In regard to History, the opinion expressed by Dr. Moberly, the Head Master of Winchester, was probably then widely held: " I wish we could teach more History, but as to teaching it in set lessons I do not know how to do it."

(2) There is reason to believe that in a considerable number of endowed schools the conditions prevailed which are described in the following passage from the evidence given by Sir Charles Lyell, F.R.S. to the Oxford University Commission in 1851. (*Oxford University Commission's Report* (1852), Appendix and Evidence, page 122) :—" A school, I speak from experience, may consist of about 80 boys taken from the higher and middle classes, of whom 75 are never intended for the University . . . The headmaster, a graduate of Oxford, models his plan of instruction for all the pupils in such a way as will tell best in preparing these five favoured youths to cut a figure at the University. . . The parents of the other 75 boys may wish for the introduction of the French and German languages, or the elements of Physics and Natural History, or some modern literature, but they must submit to be ruled by the standard set up at Oxford, and even those assumed to be the best only for a class of students which can afford to persevere in a preliminary and unprofessional training up to the age of 22."

nor was there any appropriate differentiation of courses adapted to the needs of pupils who left school at different ages. Only a small number of the existing schools took advantage of the standards set up by the various external examining bodies, and a still smaller number sent pupils on to the Universities. The best work, on the whole, was found in some of the endowed and proprietary schools, but the general results were unsatisfactory in nearly all the subjects that were taught. The private schools were for the most part unsatisfactory, and were subject to interference from parents who were only interested in education that had an immediate practical value.

Of the old endowed schools of England and Wales, 782 in number, only 209, or about 27 per cent., were really classical schools; 183 schools, or about 23 per cent., were semi-classical and taught little or no Greek; 340, or about 43 per cent., did not teach either Greek or Latin, and seldom gave any effective instruction even in Mathematics, French or Natural Science. In fact the majority of these 340 schools gave an education no wider than that of an ordinary elementary school. In the Grammar Schools which really taught classics, the teaching was generally poor and in many instances it seemed as if the main function of the classical teaching was to furnish an excuse for the neglect of all other useful learning. English and Natural Science were rarely taught systematically or regarded by the head master as a serious part of the school "business." It is especially interesting to note the inferiority of the non-classical schools described in the Report. This was doubtless partly due to the fact that few of the advocates of reform had any clearly defined notion of what the non-classical school should do.

The Commissioners insisted on the importance of grading and stated that schools of three grades were required above the rank of primary education. "The wishes of the parents can best be defined, in the first instance, by the length of time during which they are willing to keep their children under instruction. It is found that, viewed in this way, education, as distinct from direct preparation for employment, can at present be classified as that which is to stop at about 14(1), that which is to stop at about 16, and that which is to continue till 18 or 19; and for convenience we shall call these

(1) The principle of compulsory attendance (subject to certain exceptions) at elementary schools up to the age of 13 was first introduced by the Elementary Education Act, 1870, and affirmed by the Elementary Education Act, 1880.

the third, the second, and the first grade of education respectively. The difference in the time assigned makes some difference in the very nature of the education itself; if a boy cannot remain at school beyond the age of 14, it is useless to begin teaching him such subjects as require a longer time for their proper study; if he can continue till 18 or 19, it may be expedient to postpone some studies that would otherwise be commenced early. Both the substance and the arrangement of the instruction will thus greatly depend on the length of time that can be devoted to it. It is obvious that these distinctions correspond roughly, but by no means exactly, to the gradations of society. Those who can afford to pay more for their children's education will also, as a general rule, continue that education for a longer time."

The persistence of the classical, or at any rate the Latin, tradition in English higher education is strikingly shown in the constructive recommendations of the Commissioners for their three grades of secondary schools, viz.:—

(*a*) First grade schools with a leaving age of 18 or 19 closely connected with the Universities which would teach Greek as well as Latin. The Commissioners' archetype for this grade of school was probably the contemporary Prussian *Gymnasium*.

(*b*) Second grade schools with a leaving-age of 16 or 17 which would make Latin an important subject and in addition teach two modern languages. The Commissioners' model or *cadre* for this type of school was largely derived from the contemporary Prussian *Realschule erster Ordnung*, later known as the *Realgymnasium*.

(*c*) Third grade schools with a leaving-age of 14 or 15 which would teach the elements of Latin and French. The Commissioners write, "These third grade schools represent a type intermediate between contemporary primary and secondary schools such as the Prussian *Bürgerschulen* and the *Sekundarschulen* of Zürich."[1]

The Commissioners themselves explicitly state on pages 79 and 80 of their Report (1868) that their proposed third grade schools were intended to provide good instruction "for the whole of the lowest portion of what is commonly called the middle class," but even in these schools they urge that boys

[1] It is possible that the Commissioners derived the idea of these three grades of school from the tripartite organisation of Liverpool College with its three distinct Schools, Upper, Middle and Commercial. (*S.I.C.*, IX, 591), and Sir Michael Sadler's *Report on Secondary Education in Liverpool* (1904), pp. 23 and 40).

between the ages of 12 and 14 in the upper divisions should study the elements of Latin or some modern language. The Commissioners go on to say that these third grade schools need not be all of one type. "On the contrary it would be wise to put no obstacle in the way of a free growth of very various kinds of schools of this sort. Some, like the Bristol Trade School(1), might give up the study of language, and cultivate the elements of the sciences most needed for the trade or manufactures of the place. Others might give up Natural Science and perfect the boys in French. But in the great majority of cases it would be best, for the reasons already discussed, to retain Latin, with the precaution that it should not be allowed to engross too large an amount of time." It will be noted that the Commissioners were at pains to urge that Latin should still be treated as a constituent element in the curriculum even of third grade schools.

The constructive recommendations of the Commissioners in respect of curriculum show clearly the influence of that class idea of education which held the field in England till the end of the nineteenth century. Education was envisaged in terms of social classes, there was to be one education for the less affluent class, another for the middle classes of society and a third for the upper classes. There was no machinery for passing from one grade to another, though a boy of exceptional ability might succeed in doing so. The type of education which a boy received depended on the wealth and social position of his parents, the career marked out for him, and the age at which he would like to embark on it. For girls there was nothing but home education or private schools. The Commissioners emphasised the importance of organising a system of secondary schools within the reach of every class of society.

The general views of the Schools Inquiry Commission on curriculum

17. In discussing the problem of the choice of subjects for the curriculum of schools of different grades, the Commissioners considered the preliminary question as to whether schools

(1) The Bristol Trade School was founded in 1856 to provide an advanced course of training for the best pupils from elementary schools in order to fit them better for their work in industry. The curriculum made provision for the study of Mathematics and several branches of Science, particularly Chemistry, Physics, Applied Mechanics and Experimental Physics and for Geometrical Drawing, Machine Drawing and Architectural Drawing. (G. C. T. Bartley, *The Schools for the People* (1871), pp. 156–159.)

should endeavour to give general education or, as far as possible, to prepare boys for special employments. They state that on this point there was almost unanimous agreement among their witnesses in favour of general education. "Of course, no objection could be raised to the teaching of any subject which, though specially useful in some particular employment, was either well suited to the general cultivation of the intellect, or could easily be made so. The double purpose served by such a subject would be of necessity a weighty argument in its favour. But special preparation for employments to the neglect of general cultivation was all but universally condemned as a mistake. It disorganised and broke up the teaching. It conferred a transitory instead of a permanent benefit, since the boy whose powers of mind had been carefully trained, speedily made up for special deficiencies and very often it taught what soon had to be unlearnt or learnt over again."(1)

The Commissioners held that the demand of some parents for a modern education in first grade schools was one which could best be met by establishing separate Modern Schools of the first grade since the modern side of a classical school was apt, being apart from the main current, to become a refuge for boys of inferior calibre, and since the inclusion of fresh subjects in first grade classical schools was difficult without direct encouragement from the Universities. The Commissioners thought that in second and third grade schools the industry or business of the district gave an exceptionally practical value to specific sciences or languages, but they held that, in the curriculum of all secondary schools alike, three leading subjects should be used as the chief instruments for the discipline of the mind, namely, language, mathematics and physical science.

The Commissioners were disposed to agree with the majority of their witnesses that language was the most valuable instrument of the three. The humane subjects of instruction, of which the study of language is the beginning, appeared, in their view, to have a distinctly greater educational power than the material. "Nothing," they say, "appears to develop and discipline the whole man so much as the study which assists the learner to understand the thoughts, to enter into the feelings, to appreciate the moral judgments of others. There is nothing so opposed to true cultivation, nothing so

(1) This passage shows the vitality and persistence of the traditional conception of general liberal education. See Appendix II, *passim*.

unreasonable as excessive narrowness of mind; and nothing contributes to remove this narrowness so much as that clear understanding of language which lays open the thoughts of others to ready appreciation. Nor is equal clearness of thought to be obtained in any other way. Clearness of thought is bound up with clearness of language, and the one is impossible without the other. When the study of language can be followed by that of literature, not only breadth and clearness, but refinement become attainable. The study of history in the full sense belongs to a still later age: for till the learner is old enough to have some appreciation of politics, he is not capable of grasping the meaning of what he studies."

Among languages, Greek could only be taught with advantage in first grade schools, but the Commissioners held that Latin could be taught with good results in other schools, and Latin held its ground, in their view, against all other languages, including English, by its character as a language, and by the help it gave in acquiring an accurate knowledge of English, and in learning other languages at the same time or afterwards.(1) Latin, together with French or German, or both, should accordingly occupy, with Mathematics and Science, the greater part of the school time of boys who had first mastered the indispensable elementary subjects. English, Literature and History merited careful attention but had subordinate claims on the time of the school. Science teaching could best be made a valuable discipline if it began with sciences that appealed principally to the faculties of simple observation, such as elementary Botany, advancing to Physical

(1) The Schools Inquiry Commission, in adhering so closely to the classical tradition, had completely ignored the friendly warning given to them by Matthew Arnold, who, in his report on French secondary schools prepared specially for this Commission in 1866, wrote as follows:-

"This current of opinion is, indeed, on the continent, so wide and strong as to be fast growing irresistible; and it is not the work of authority. Authority does all that can be done in favour of the old classical training; ministers of state sing its praises; the reporter of the commission charged to examine the new law is careful to pay to the old training and its pre-eminence a homage amusingly French. Men of the world envy us a House of Commons where Latin quotations are still made, school authorities are full of stories to show how boys trained in Latin and Greek beat the pupils of the new instruction even in their own field. Still in the body of society there spreads a growing disbelief in Greek and Latin, at any rate as at present taught; a growing disposition to make modern languages and the natural sciences take their place. I remark this in Germany as well as in France, and in Germany too, as in France, the movement is in no wise due to the school authorities, but is rather in their despite, and against their advice and testimony." *Schools Inquiry Commission*, VI, 512.

Geography as a subject which led to some general understanding of natural objects, and ending with elementary Physics and Chemistry as the common groundwork of all the sciences. The Commissioners were of opinion that " the extent to which Natural Science may be carried may greatly vary, just as is now the case with Mathematics. Indeed it may be highly desirable that there should be considerable variety in this respect; for it must not be lost sight of that boys of very ordinary power of grasping other subjects may evince special ability in Natural Science, which ought to be provided for.

" Nor would it be wise in a country whose continued prosperity so greatly depends on its ability to maintain its pre-eminence in manufactures, to neglect the application of Natural Science to the industrial arts, or overlook the importance of promoting the study of it, even in a special way, among its artisans."

The Endowed Schools Commission (1869–1874) : *The Charity Commission* (1874–1902)

18. Though the Report of the Schools Inquiry Commission made a considerable impression on public opinion at the time, the only step taken by the Government of the day to carry out the administrative recommendations of the Commissioners was to pass the Endowed Schools Act, 1869, establishing the Endowed Schools Commission. This body, which was merged in the Charity Commission in 1874, was vested with extensive powers in respect of educational trusts. From 1869 onwards part of the funds of educational trusts was in many instances applied to girls' education by this Commission.(1) The new schemes prepared for endowed schools for boys and girls by the Endowed Schools Commission (1869–1874), and the Charity Commission (1874–1902), frequently contained clauses regarding curriculum and external examinations, and did much to liberalise the courses in such schools and to introduce some measure of differentiation in the curriculum for girls' schools.(1)

The influence of external examinations from about 1850 *on the curriculum of secondary schools of different types*

19. The examination system in England and Wales is at present so closely associated with the education of boys and girls in both the primary and secondary schools that it is difficult to realise that it is of comparatively modern growth.

(1) See footnote on p. 45.

Before 1850 competitive examinations had a limited place even at the Universities and were not much in use in secondary schools.

It is true indeed that the establishment of severe examination tests for the Honours Degree of B.A. at Oxford and Cambridge at the beginning of the nineteenth century had a salutary indirect influence on the teaching of Classics and Mathematics at the Public Schools and Grammar Schools, which, as we have shewn in an earlier section of this chapter, had always been intimately connected with the ancient Universities. For instance, from the beginning of the nineteenth century the requirements for the Honours Degree at Cambridge obliged every candidate first to take Mathematics. Oxford, too, under the academic Statute of 1800 required Mathematics as well as Classics for the B.A. Degree from 1802. After 1807 a special Honours class list for Mathematics was established at Oxford. The prominent position thus assigned to Mathematics at the two Universities helped to give Mathematics an assured place in the curriculum of the endowed schools, non-local and local. Indeed it is broadly true to say that the Public Schools and the Grammar Schools began to recover, at the same time as the two ancient Universities, from the condition of torpor and stagnation into which they had sunk in the eighteenth century, and that their recovery was considerably accelerated by the institution of serious examination tests for Arts Degrees at Oxford and Cambridge. So, too, the establishment of the Natural Sciences Tripos at Cambridge in 1851, and of the Honours School of Natural Science at Oxford in 1853, undoubtedly helped to prepare the way for the inclusion of Science in the school curriculum.

But after 1850 the curriculum of most of the better boys' schools, both endowed and private, began to be largely determined by the requirements of various external tests such as the examinations for the Indian Civil Service and the Home Civil Service, first held in 1855, the London Matriculation Examination, the Oxford Local Examinations and the Cambridge Local Examinations, both first held in 1858, and the examinations of the College of Preceptors, instituted in 1853. The Local Examinations of Oxford and Cambridge were originally designed to meet the needs of what were then termed "middle class" schools.(1) Later, when the needs of

(1) See §14 of this chapter and T. D. Acland, *Some Account of the Origin and Objects of the New Oxford Examinations* (1858).

secondary education as a whole were considered by the Schools Inquiry Commission in 1868, the Commissioners recommended the establishment of a statutory council for examinations in secondary schools, and provisions to this end were included in the original draft of the Endowed Schools Bill of 1869. These sections of the Bill were afterwards dropped, but the movement of public opinion which they reflected had two important effects on the development of examinations in secondary schools. The Endowed Schools Commission (1869–1874) and their successors, the Charity Commissioners (1874–1902), frequently included in their schemes for endowed schools clauses providing for annual examinations by external bodies. In the second place the abortive proposal made in the Endowed Schools Bill of 1869 for the establishment of a central examinations council aroused much opposition on the part of the Public Schools, who were opposed to State intervention of any kind, and thereby contributed to the establishment of the Headmasters' Conference in 1870. This body at first tended to favour a system of leaving examinations conducted by the State, but subsequently decided that it would be more satisfactory to invite the co-operation of the two ancient Universities. The Universities accordingly established in 1873 the Oxford and Cambridge Schools Examination Board to act as a joint examining body for those schools, particularly the Public Schools, which sent large numbers of pupils to both Universities. The first examination instituted by this Joint Board was the Higher Certificate Examination for boys of the age of 18 and over, held for the first time in 1874 as a Sixth Form examination. In 1879 girls were admitted to this examination. In 1884 the Lower Certificate Examination was started for boys leaving school at the age of 16, and in 1905 the School Certificate Examination was established for pupils of 17 years of age. Thus, the examinations conducted by the Oxford Delegacy and the Cambridge Syndicate and by the Joint Board were expressly designed for pupils in secondary schools.

On the other hand the London Matriculation Examination, for which very large numbers of pupils in secondary schools were presented, was in its origin an examination for entrance into London University and had no relation to the courses of study in any individual schools. It gradually came to be used as a leaving examination in secondary schools by many pupils who did not intend to proceed to a university course. In 1902 the University of London set up an Extension Board

vested with definite powers for the examination and inspection of secondary schools, and this body established some examinations on rather different lines from the existing Local Examinations of the two old Universities, based on an intimate connexion between examination and inspection.

In addition to these examinations conducted by academic bodies, a large number of professional bodies organised general extrance examinations of their own for admission to each individual avocation. This had the effect of creating a large number of external authorities each of which had liberty in a sense to make its own rules for general school education. The bewildering variety of standard and requirement imposed by these various bodies caused much inconvenience in the schools and interfered very considerably with the systematic organisation of the curriculum.

In this context it should be mentioned that in the last four decades of the nineteenth century public elementary education as from 1861 and the development of instruction in Science and Art as from 1870 were chiefly promoted by examinations, which, as a result of the monetary reward involved in their results, had the effect of standardising and dominating the work of the schools concerned. While financial rewards were not attached to the results of the examinations in secondary schools described above, many of these schools were disposed to advertise unduly their successes in these external tests.

Another class of external examination which had a very considerable influence on the work of the better endowed schools and private schools was the examinations for open scholarships at Oxford and Cambridge. The Act of 1854 giving effect to the recommendations of the Royal Commission of 1850–52 on Oxford, and the Act of 1856 giving effect to the recommendations of the Royal Commission of 1850–52 on Cambridge, included provisions for the removal of restrictions in electing scholars at the various Colleges. These scholarships, thus thrown open for competition, provided a strong stimulus to the better boys in the schools and tended on the whole to raise the general standard of scholarship.[1] The examination system, and particularly the examinations of the various professional bodies, had a disturbing effect on the curriculum of many secondary schools, but on the other hand it should in justice be pointed out that English Literature and modern

[1] See Sir Michael Sadler's Essay on the Scholarship System in England, in *Essays on Examinations* (1936), pp. 1–78.

subjects were fostered in the last decades of the nineteenth century by being included in the programmes drawn up for the examination of boys and girls in secondary schools by the Universities and the College of Preceptors. Again, the London Matriculation Examination, which has greatly influenced the curricula of schools, public and private, imposed in effect an exacting standard of general education by requiring candidates to offer Latin, Mathematics, English with English History and Modern Geography, two branches of Natural Science, Greek (which was required down to 1874), and either French or German.(1)

Contemporary Criticisms of the Curriculum: The Claims of Science

20. As a result of the great advances in science during the nineteenth century it became more and more apparent that the legitimate claims of science to be included as an integral part of the curriculum for secondary schools must be recognised. William Whewell, the celebrated Master of Trinity College, Cambridge, had urged in 1837 the claims of Mathematics and Science to be regarded as part of a liberal and academic education. The Prince Consort was keenly interested in the claims of science, and these were further stressed by the Great Exhibition of 1851, which brought home to Englishmen their comparative backwardness in this respect. In 1854 three eminent scientists urged the claims of science as an integral part of general education. Professor T. H. Huxley delivered a famous address on the Educational Value of the Natural History Sciences; John Tyndall lectured on the Importance of the Study of Physics as a Branch of Education; and Michael Faraday, in a lecture on the Education of the Judgment, stressed the importance of cultivating the scientific spirit. Herbert Spencer, in an article in the *North British Review*, took the view that a knowledge of life was more important than any other knowledge whatever. In 1859 Spencer published four essays in the *Westminster Review* which were issued in book form in 1861 under the title of *Education: Intellectual, Moral, Physical.* This work, which had a very wide circulation, did much indirectly to undermine confidence in traditional methods of education. The section dealing with curriculum is for the most part a restatement of the utilitarian point of view. Spencer concludes that knowledge of the various branches of natural science is of the highest

(1) See our Report on *Examinations in Secondary Schools* (1911), Chapter I, *passim.*

value, and his section on curriculum mainly consists of an elaborate plea for giving the teaching of natural science the leading place in formal education. In another passage of his book he strongly advocates systematic physical training. The most prominent advocate of the teaching of natural science in the 'sixties and 'seventies was Professor T. H. Huxley (1825–1895), who in his *Essays* (1) and other writings urged the claims of science to be included in any proper scheme of secondary education. His views exercised much influence on the development of public opinion in regard to the teaching of science. Huxley outlines a curriculum which consists of natural science, the theory of morals and of political and social life, the history and geography of the motherland, English literature and translations of the greatest foreign writers, English composition, drawing and either music or painting.

The volume entitled *Essays on a Liberal Education*, published in 1867 under the editorship of Dean Farrar, who was at that time an assistant master at Harrow, reflects very clearly the widespread dissatisfaction with the traditional curriculum. In regard to Science, Professor Henry Sidgwick of Cambridge, in an essay on the theory of classical education, points out that even if it be admitted that knowledge of the processes and results of Physical Science does not by itself constitute culture, nevertheless it is of such great importance that the intellectual man who has been trained without it must feel at every turn his inability to comprehend thoroughly the present phase of the progress of humanity. In regard to Natural Science and English he writes :—

> " I think that a course of instruction in our own language and literature and a course of instruction in Natural Science ought to form recognised and substantive parts of our school system. I think also more stress ought to be laid on the study of French. While advocating these new elements I feel most strongly the great peril of overburdening the minds of youth to their intellectual and physical detriment or both."

Canon J. M. Wilson, at that time Science Master at Rugby, in his essay on Science Teaching expressed the view that a study of two unlike branches of Natural Science was a necessary part of any complete education, and emphasised the habits of accurate observation, exact reasoning, and power to judge evidence which could be developed by good scientific

(1) Huxley's *Collected Essays* were published in nine volumes in 1893–1894.

teaching. Mathematics in his view did not altogether serve the same purpose. In another paper, written in 1866, Canon Wilson stated that the decided opinion of those who had given most attention to the subject was that Experimental Physics ought to form the staple of scientific teaching in schools.

The Sixth Report of the Royal Commission on Scientific Instruction and the Advancement of Science issued in 1875 deals with secondary schools. The Report recommends that (i) in all Public and Endowed Schools a substantial portion of the time allotted to study should, throughout the school course, be devoted to Natural Science, and that not less than 6 hours a week on the average should be assigned to this purpose; (ii) in all general school examinations not less than one-sixth of the marks should be allocated to Natural Science, and that in any Leaving Examination the same proportion of marks should be maintained. It is significant that the Report omits to define precisely the character of the scientific teaching to be given. Contemporary scientists were unanimous in urging that Natural Science should be taught, but apparently they had never attempted to determine what specific sciences should be taught The Commissioners, accordingly, merely record their opinion that school laboratories should be constructed to supply accommodation for practical work in Physics as well as in Chemistry, and that many persons of experience in education had arrived at the conclusion that Chemistry was not so well fitted for the practical instruction of young pupils as Physics.

Three educational movements which affected traditional ideas on the Grammar School Curriculum

21. There were three great movements in education in the second half of the nineteenth century which had important reactions on the traditional ideas about secondary education, namely—

(i) The movement for the provision of higher education for girls and women.

(ii) The establishment in 1870 of a national system of elementary schools which from the beginning had a marked tendency to throw up experiments in post-primary education.

(iii) The recognition of the importance of technical education and the beginnings of State intervention in it.

All three movements, like most new tendencies in education, were connected with wider movements of thought and action.

The movement for the provision of efficient secondary schools for girls was only one phase of the great movement for the emancipation of women; the passing of the Elementary Education Act in 1870 was only an important stage in a great movement for protecting children from premature employment in industry and for providing general popular education which began with the passing of Peel's Factory Act in 1802[1]; the movement for the provision, with State aid, of adequate facilities for technical education was one aspect of the vast changes in the organisation of industry which had been brought about by the Industrial Revolution, and was in its inception largely due to the pressure of foreign competition. We now proceed to give a brief description of these three movements.

The Development of the Curriculum for Girls' Schools

22. In the historical chapter of our Report on *Differentiation of Curricula between the Sexes in Secondary Schools* (1923), we traced in considerable detail the evolution of the present curriculum for girls' secondary schools. We shall, therefore, in the present section only summarise the salient features of that development. In England, as in the other countries of Western Europe, girls were for the most part educated privately up to about 1845, and the traditional education, consisting chiefly of foreign languages and "accomplishments," tended to accentuate the differences between the sexes.

The new movement for the higher education of women formed part of a wider sociological movement and began, as in France and Germany, with an attempt to provide appropriate training for women who intended to teach. The Governesses' Benevolent Association, founded in 1843, established in 1846 examinations on the basis of which certificates were granted to governesses. This led directly to the establishment of lectures for them and so to the foundation of Queen's College, Harley Street, London, in 1848, with the support of F. D. Maurice, Charles Kingsley and others. It is evident from the early history of Queen's College that the leaders of the movement took as their model the traditional education for boys which they had themselves received. Among the first students of the College were Miss F. M. Buss and Miss Dorothea Beale, who became the founders of the present system of higher education for girls: the first as Headmistress of the North

[1] An Act for the preservation of the health and morals of apprentices and others employed in cotton and other mills and cotton and other factories. 42 Geo. III, c. 73.

London Collegiate School (1850) and the second as Principal of the Cheltenham College for Young Ladies (1853). In both these schools the curriculum was largely modelled on the contemporary curriculum for boys, except that less stress was laid on Latin and Greek and that subjects such as Music Needlework and Dancing were included. The curricula in vogue at these two schools were regarded as archetypal by the leaders of the women's movement and had profound influence in moulding the curriculum of the new High Schools for Girls which were established in considerable numbers after 1869.

The influence of external examinations on the curriculum for girls

23. In 1863 a small Committee of ladies interested in education, which had been formed in 1862 with Miss Emily Davies as Secretary, secured the concession that girls should be allowed unofficially to take the papers of the Cambridge Local Examinations. In 1865 this practice was given an official trial for three years and in 1868 it was accepted permanently. In this way the Cambridge Local and similar external examinations came to exercise an important formative influence on the development of the curriculum in girls' schools. Thus almost from the inception of the movement for the higher education of women, preparation for examinations was a salient feature of the new schools for girls; (i) because the admission of girls and women to public examinations came at the crucial moment of reform; (ii) because preparation for examinations was the principal reason for the foundation of several important educational institutions for women, such as Queen's College, London (1848), Bedford College, London (1849) and Girton College, Cambridge (1873); (iii) because, in the view of the educational world at that period and of many of the pioneers of women's education, the capacity to pass examinations was the principal if not the sole criterion of the educability of girls; (iv) because examinations seemed to offer a motive for girls to study and for their parents to keep them at school.

The causes which appear to have led to the assimilation of the girls' curriculum to that for boys in the period 1850–1880

24. The main causes for the assimilation of the girls' curriculum to that of the boys in the fifth and sixth decades of the last century may be summarised under three main heads: humanistic, vocational, and economic. All these implied the taking over of the existing system of education for boys as

nearly as was possible and the degree of assimilation varied according to the character, practice and principles of the pioneers of women's education.

(i) Humanistic considerations.

Nearly all the early leaders of the movement for the emancipation of women stressed the idea of women's education as liberal and humane. The Assistant Commissioners who reported on girls' education for the Schools Inquiry Commission, 1864–1868, recommended for girls' schools the same subjects as were taught in boys' schools.

(ii) Vocational considerations.

The pioneers of the movement for women's education always had in view the vocational side, but, as the movement at that period was essentially middle class, they tended to model the curriculum for girls on the existing middle class conception of a liberal education for boys.(1) The Report of the Schools Inquiry Commission and contemporary statements by the leaders of the women's movement constantly urged the desirability of teaching certain subjects to girls, such as Latin, German and Mathematics, on the ground that they afforded a good mental discipline and an effective means of training the mental faculties.(2)

(iii) Economic considerations.

The pioneers of the women's movement strongly emphasised the aim of education as fitting women to earn a living. This idea constantly recurs in the writings and public utterances of the pioneers of women's education and it was necessary to show, by identity of curriculum and examinations, that women could do as well as men if they were to secure opportunities of earning a living in professional work.

Combined with all these considerations, and in a sense controlling them, was the great movement for the emancipation of women(3), of which, as we have pointed out above, the educational movement was only one aspect or facet.

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(1) See Appendix II.

(2) See Appendix IV.

(3) See pp. 127–130 of our Report on *Differentiation of Curricula between the Sexes in Secondary Schools* (1923).

The development of girls' education after 1868

25. The chapter on girls' education in the Report of the Schools Inquiry Commission(1868) produced a profound and immediate impression on public opinion. The Endowed Schools Act of 1869 set up the Endowed Schools Commission vested with powers to apply part of the funds of educational trusts to girls' education.(1) In 1869 the Cambridge Higher Local Examination was instituted and the need to prepare women for it led to the foundation of Newnham College in 1871. Girton College, founded at Hitchin in 1869, was removed to Cambridge in 1873. In 1869 the University of London established a general examination for women with more advanced special papers. In 1870 women were admitted to the Oxford Local Examinations. In 1871 the National Union for the Improvement of the Education of Women of all Classes was founded, of which the chief aims were to promote the foundation of cheap day schools for girls and to raise the status of women teachers by giving them a liberal education and a good training in the art of teaching. To this end the National Union in 1872 formed the Girls' Public Day School Company, whose purpose was " to supply for girls the best education possible, corresponding with the education given to boys in the great Public Schools." The Company established first in London, and later in other large towns, a number of excellent schools the curriculum of which was largely modelled on that of the North London Collegiate School. By 1900 the Trust had 33 schools attended by more than 7,100 girls. Thus the standards for the secondary education of girls in England and Wales were rapidly raised by the admission of girls to external examinations and by the increased numbers of women teachers who had a university training. These two factors probably tended to emphasise too explicitly the academic character of the work done in girls' schools.

(1) The Endowed Schools Commission (1869–1874) was merged in the Charity Commission in 1874. The work accomplished by these bodies in drafting new schemes for educational endowments may be seen from the fact that, whereas in 1868 there were only about 14 endowed secondary schools for girls (S.I.C. Report, p. 565), in 1897 there were 86 endowed schools for girls, containing 14,119 pupils, and 31 endowed schools for boys and girls, containing 3,035 pupils. (C.–8634 (1898).) cf. 42*nd Report of Charity Commissioners* (1895), p. 12. " As to one particular branch of educational endowments, namely, that for the advancement of the secondary and superior education for girls and women, it may be anticipated that future generations will look back to the period immediately following upon the Schools Inquiry Commission and the consequent passing of the Endowed Schools Acts as marking an epoch in the creation and application of endowments for that branch of education similar to that which is marked, for the education of boys and men, by the Reformation."

The growing recognition of the claims of Natural Science, to which attention was directed by the Report of the Royal Commission on Scientific Instruction and the Advancement of Science (1875), led to the gradual introduction of Natural Science, especially Botany, into secondary schools for girls. In the same way the increasing attention paid to questions of health and physical development prepared the way for the introduction of Physical Training into these schools. The Head Mistresses, who had organised themselves as the Association of Head Mistresses in 1874, were accordingly compelled even in the 'seventies to consider the congestion of studies. The more liberal education which they had received in the Women's Colleges, reinforced by the professional spirit which from the first marked their activities, enabled them to arrive at a working solution of the problems involved. The curriculum was made more educative and more flexible by the recognition of diversity of aptitudes in the pupils and by a corresponding arrangement of studies, while a common core of basic subjects was retained in the lower part of the school. The new High Schools for Girls were to a great extent unfettered by the traditions and prejudices which obsessed the endowed schools for boys, and the mistresses were more responsive to new ideas, more critical and more disposed to adapt themselves to changing circumstances. Reforms in the curriculum and in methods of teaching were, on the whole, readily accepted. Manual work was introduced into girls' schools at a relatively early date, and mistresses were, on the whole, quicker than masters to recognise the claims of less gifted pupils. The rapid development of girls' education after 1869 is marked by the permission, accorded in 1876, for girls to take the examinations of the Oxford and Cambridge Joint Board, established in 1873.

Games did not form part of the original tradition, but were introduced by the younger mistresses from the Women's Colleges at Cambridge, Oxford and London from about 1885. Drill was regarded as a necessary safeguard before girls were allowed to take part in the more vigorous games. St. Leonards School, founded at St. Andrews in 1877, contained from its inception some wholly new features. It was not merely a day school with boarding-houses attached, but the various Houses formed an integral part of the school, and each House Mistress was one of the staff, her work being divided between the School and her House. Much attention was devoted from the beginning to out-door games. A number of boarding

schools for girls in England were founded largely on the model of St. Leonards. These schools, while retaining the ordinary subjects of study in girls' schools, have also adopted other subjects from the boys' curriculum as well as the whole public school plan—the house system, the prefects, house games, and colours—and have thus developed a particular kind of tradition and of *esprit de corps*. The ideas fostered in these schools are being widely spread by mistresses and old pupils who are now teaching in High Schools and County or Municipal Schools.

Towards the close of the last century housecraft was introduced into the curriculum for 'older girls' in some schools, and improvements in the methods of teaching Art and Music were also introduced. In addition to sewing, which had always formed part of the traditional curriculum for girls, crafts of various kinds, such as embroidery and book-binding, were introduced into some schools, especially as alternative subjects for the less gifted girls.

The reaction on secondary education of the establishment in 1870 *of a national system of elementary schools, and of its tendency to throw up experiments in post-primary education*

26. The development of secondary education in England and Wales was profoundly influenced by the fact that the State organised a national system of elementary schools for children between the ages of 5 and 13 in 1870, more than 30 years before it took seriously in hand the organisation of secondary education in 1902 after the passing of the Education Act of that year. The development of popular, as distinct from middle class, education in England and Wales was due to a combination of religious, philanthropic and political motives, and was largely influenced in its early stages by the legislation incorporated in the Factory Acts and the Mines Acts, designed to prevent the early employment of child labour. We have traced the development of the State system of public elementary schools in the historical chapters of our Reports on *The Education of the Adolescent* (1926) and on *The Primary School* (1931). In the first named Report we described in considerable detail the rise of the 'Higher Grade Schools.'[1] We shall accordingly here only give a very brief account of that development. After 1870 the School Boards in the larger urban areas were gradually

[1] Report on *The Education of the Adolescent* (1926), p. 17–26.

forced by pressure of facts to extend the scope of their work to education of a type higher than elementary. This was partly due to the necessity for providing some reasonable education for their pupil teachers between 16 and 18 years of age, so as to secure a supply of teachers for their elementary schools, but it was partly due also to the natural tendency which education has to foster a desire for more education. It was soon found that a considerable number of children remained beyond the legal age of 13 after passing the Seventh Standard. 'Ex-standard' classes were accordingly organised for these children, but after a time it was found convenient to draft them into one central school. Sometimes a building was erected for the purpose, and sometimes a previously existing school was set apart for this work, but in either case the school in question became what was called in the last two decades of the nineteenth century a 'Higher Grade School.' Most of these schools had an upper portion arranged as an Organised Science Course or School under the Science and Art Department at South Kensington; some School Boards retained a few ex-standard scholars in their schools in Science Classes under the Science and Art Department. Some School Boards, especially those in large urban areas such as Bradford, Birmingham and Sheffield, devoted much attention to the development of these Higher Grade Schools. For instance, Sheffield established about 1878 a Higher Central School for the Sixth and Seventh Standards, to which pupils were admitted by competition. The upper part of this school was arranged as an Organised Science School under the Science and Art Department, and the course of instruction included Mechanics, Physics, Chemistry and Drawing, comprising Machine Drawing and Construction. The Birmingham School Board established a Central Higher Grade School with a three-year course. During the first year the pupils were Seventh Standard scholars earning grants from the Education Department. For the remainder of the course they became students earning grants on examination from the Science and Art Department at South Kensington. This procedure was adopted by other School Boards in organising and financing schools of this type, which were known locally as Higher Standard or Higher Elementary Schools.[1] They were essentially an organic outgrowth of the system of elementary education established

[1] See the description of the Higher Grade Schools in the *Final Report of the Commissioners appointed to inquire into the Elementary Education Acts, England and Wales* (1888), C.-5485, Chapter V and *passim*.

by the Education Act of 1870. These 'Higher Grade Schools' were very fully discussed in the Report of the Royal Commission on Secondary Education, 1895. The Report pointed out that the name 'Higher Grade Elementary School' had been applied in at least three senses. (i) The first type, which might be described as normal, was represented by the school which taught from the Fifth Standard upwards and gave an education for two years after the Seventh Standard, i.e., to the age of 15 at least. (ii) Another type was that which taught from the lowest Standard upwards, also giving an education for two years (in some cases even four) after the Seventh Standard, though the proportion of pupils remaining after the Seventh Standard was seldom large. A school of either of these two types might or might not include an Organised Science School working under the Science and Art Department. (iii) Lastly, there was the pseudo-'Higher Grade' school which charged a fee, and was supposed to be more select, while in respect to its curriculum it was almost wholly 'elementary.'

Following the threefold classification of secondary schools adopted in the Report of the Schools Inquiry Commission (1868), the Commissioners described third grade schools as those of which the special function was the training of boys and girls for the higher handicrafts or the commerce of the shop and town. This could best be effected by continuing and enlarging the education of the elementary school, with such addition of manual instruction as might be needed to educate the hand and eye of the craftsman and at once to define and illustrate the principles he had learnt. 'Higher Grade Schools,' which were adduced as an example of the type required, were held to be an absolute necessity in any efficient system of secondary education. Properly organised they would become the crown of the elementary school system.(1)

The Commissioners held that these schools had risen to meet a legitimate demand and admitted of correlation and development, but not of abolition or even repression.(2) In their final recommendations the Commissioners pointed out that these 'Higher Grade Elementary Schools' had a double aspect, being in one sense elementary schools, and in another

(1) *Report of Royal Commission on Secondary Education* (1895), C.–7862, pp. 54 ff.

(2) *Report of the Royal Commission on Secondary Education* (1895), C.–7862, pp. 143–144.

sense wholly or largely secondary schools, teaching subjects which could not be deemed elementary and not receiving in respect of those of their pupils who were beyond the so-called "Standards" any grant from the Education Department. In point of fact, they did supply in those populous places where they existed much the same kind of secondary education which the Schools Inquiry Commission (1868) had proposed to have supplied by their schools of the third grade. The Commissioners accordingly recommended that such schools should be treated as secondary schools, placed under the jurisdiction of the local authority for secondary education, and co-ordinated with other secondary schools in the district by being brought into a definite and organic relation with other secondary schools and institutions of the districts, so that they should rather co-operate than compete with the latter where they existed, and should be made more available as places of preparation for advanced instruction.

The development of Technical Education in England and Wales down to 1880

27. Down to the beginning of the nineteenth century such technical education as existed was given mainly through the system of craft apprenticeship, which had been standardised in the Elizabethan Statute of Artificers, 1562. The industrial revolution, beginning towards the end of the eighteenth century, prepared the way by the introduction of machinery on a large scale for the gradual break-up of the old apprenticeship system. The master craftsman often developed into the capitalist employer, owning and using machinery, or applying to industrial practice scientific principles which he scarcely understood; the collection of machinery into factories prevented the employer from undertaking personally the training of his apprentices, even if he had wished to do so. Moreover, the character of industrial skill was changed; a smaller proportion of workmen needed manual skill, while a larger proportion required a knowledge of general principles, which could more satisfactorily be learnt in a technical school than acquired by practice in a workshop.

Various Acts had attempted to check foreign competition by making it penal to enlist artisans for employment abroad. These Acts were repealed in 1825; but first the industrial revolution in Great Britain, and then the Revolutionary and Napoleonic wars, which absorbed the energies and dissipated the capital of most of the States of

Western Europe, gave British industry a position of unchallenged supremacy, with the result that, for half a century or more, foreign competition was no longer feared.

In these circumstances, the State took no action to foster the training of industrial recruits ; although the old apprenticeship system was no longer generally suitable, its modification to meet the altered conditions was left to voluntary agencies. An important movement began with the establishment in 1823–1824 of several Mechanics' Institutes, and by 1850 there were 610 of these Institutes in England and 12 in Wales, with a total membership of over 600,000. Nevertheless these Mechanics' Institutes did not fulfil the functions for which they had been founded, though they made an important contribution towards the development of the modern State system of technical education. Apart from the establishment in 1837 of a Normal School of Design in London and some annual grants made in aid of the maintenance of certain provincial schools of design from 1841 onwards, the State took no action in the direction of aiding technical education until the Great Exhibition of 1851, which drew public attention to the lack of facilities for technical education in England as compared with those provided in various continental countries. In 1852 a Department of Practical Art was organised under the Board of Trade. The Department later became known as the Department of Science and Art and was organised as a branch of the Education Department in 1856. This Department instituted in 1859 a general system of examinations in science (i) for teachers, who received certificates of competency, and (ii) for students. The examinations were in branches of science related to industrial occupations and formed part of the provision for fostering the study of science among the industrial population. They were organised on much the same lines as the examinations of the Society of Arts which had been begun in 1856. In 1873 the Royal Society of Arts instituted examinations in technological subjects and these were transferred in 1879 to the City and Guilds of London Institute, a body composed of representatives of the Corporation of London and certain of the Livery Companies which contributed to its funds.

The development of public interest in technical education, which prepared the way for further State aid, was largely due to the pressure of foreign competition. At the Great Exhibition held in London in 1851 there were 100 departments in which goods were displayed, and in most of these Great

Britain was awarded the prize. At the Paris Exhibition of 1867 there were 90 departments, and Great Britain received prizes in only 10 of these. British firms which exhibited at the Exhibition at Paris in 1878, had similar experiences, and public opinion at last began to be impressed by the inadequacy of the provision for technical education.

A Royal Commission was accordingly appointed by the Government in 1881 " to inquire into the instruction of the industrial classes of certain foreign countries."

The Reports of the Royal Commission on Technical Instruction (1881–1884)

28. The Reports of the Royal Commission on Technical Instruction (1881–1884) mark an important stage in the development of public opinion on the subject of technical and secondary education. There is in these Reports no more important paragraph than the passage on page 516 of Volume I of the Second Report (1884), in which the Commissioners stated that " the best preparation for technical study is a good modern secondary school of the types of the Manchester Grammar School, the Bedford Modern School, and the Allan Glen's Institution at Glasgow."[1] The Commissioners called attention to the fact that the middle classes in England were at a great disadvantage compared with those of the Continent for want of a sufficient number of such schools. They pointed out that " the existing endowments are very unevenly distributed over the country; in many of the large manufacturing centres no resources of the kind exist; private enterprise is clearly inadequate to do all that is required in establishing such schools, and we must look to some public measure to supply this, the greatest defect of our educational system."

The Commissioners made the following specific recommendations in regard to secondary and technical instruction :—

" IV. Secondary and technical instruction :

(*a*) That steps be taken to accelerate the application of ancient endowments, under amended schemes, to secondary and technical instruction.

(*b*) That provision be made by the Charity Commissioners for the establishment, in suitable localities, of

[1] cf. the statement made by Mr. D. R. Fearon in 1886, in his evidence before the Select Committee of the House of Commons on the working of the Endowed Schools Acts, " That a good secondary school is the best preparation for technical study."

schools or departments of schools, in which the study of natural science, drawing, mathematics, and modern languages shall take the place of Latin and Greek.

(*c*) That local authorities be empowered, if they think fit, to establish, maintain, and contribute to the establishment and maintenance of secondary and technical (including agricultural) schools and colleges."

The Local Government Act, 1888: *The National Association for the Promotion of Technical and Secondary Education, founded in* 1887

29. Perhaps the most serious obstacle in the way of any adequate systematic organisation of post-primary education was the absence of local authorities and of administrative areas of suitable size.

The Schools Inquiry Commissioners in their Report of 1868 had recommended the establishment of central and local authorities for secondary education, vested with powers to provide rate-aid for existing schools and for the foundation of new schools. Owing to the fear of State intervention and the widespread dislike of public control, these suggestions were not carried out.

The administrative difficulty was to some extent removed by the Local Government Act, 1888, which set up County Councils for administrative purposes. This measure, with the Technical Instruction Act, 1889, and the Local Taxation (Customs and Excise) Act, 1890, which were ancillary statutes from the educational point of view, made advance possible by creating for each county, and large county borough, an elected local authority with specific powers and funds for educational development.

In 1887 a group of members of Parliament and scientists, among whom were A. H. D. Acland, H. Hobhouse, T. H. Huxley, Sir Llewellyn Smith and Sir Henry Roscoe, founded the National Association for the Promotion of Technical and Secondary Education under the Chairmanship of the Marquis of Hartington. Its principal aim was to encourage educational reforms which would improve the capacity in a broad sense of all those upon whom the national industries depended. The Association undertook a vigorous campaign to educate public opinion and to diffuse information; and it was largely due to the efforts of this body that the Technical Instruction Act was passed in 1889, which empowered the newly established

councils of counties and county boroughs to supply, or aid in supplying, technical instruction, to establish committees for that end, and to levy a rate limited to one penny in the pound. The definition of technical instruction in this Act was so comprehensive as to include secondary education of a modern character(1), and the Authorities in question were thus empowered to assist secondary schools under certain conditions either directly or by means of scholarships and prizes. In the following year the Local Taxation, Customs and Excise Act, 1890, made certain funds, known from their origin as 'whiskey money,' available for technical education.

The relation of technical education to secondary education: The Welsh Intermediate Education Act, 1889

30. From the character of the legislation in respect of technical instruction at this period (1889–1890) it is evident that public attention was being directed to the lack of scientific and technical instruction bearing on industries. This attitude was due in the main to the Reports of the Royal Commission on Technical Instruction (1881–1884). Unfortunately it was not generally realised that an adequate provision of good secondary education was the indispensable foundation for any effective system of higher technological instruction. It is, however, interesting to note the way in which the concept of technical education was associated at this period with that of secondary education.(2) The two were regarded not as

(1) The expression 'technical instruction' was defined in Section 8 of the Technical Instruction Act, 1889, 52 & 53 Vict., c. 76, as follows:—

"The expression 'technical instruction' shall mean instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries or employments. It shall not include teaching the practice of any trade or industry or employment, but, save as aforesaid, shall include instruction in the branches of science and art with respect to which grants are for the time being made by the Department of Science and Art, and any other form of instruction (including modern languages and commercial and agricultural subjects), which may for the time being be sanctioned by that Department by a minute laid before Parliament and made on the representation of a local authority that such a form of instruction is required by the circumstances of its districts."

(2) Matthew Arnold, in the last published statement of his views on education, regards the technical school as a type of secondary school. See his chapter on schools in *The Reign of Queen Victoria*, edited by T. H. Ward, London, 1887, II, 269.

"Technical schools are needed, and in elementary schools manual training should be given; yet it is undesirable to bestow in the elementary school too much prominence on this training, to turn the elementary school itself too much into a technical school. The technical school is, in fact, a secondary school, to follow the elementary school, after some manual training has there been acquired."

distinct entities, but rather as complementary aspects of one whole. This point of view, as will be seen below, was developed in the Report of the Royal Commission on Secondary Education (1895). It found expression at the time in the Welsh Intermediate Education Act, 1889, under which quasi-representative authorities for 'intermediate' and 'technical' education were set up and empowered to work out organised schemes for the intermediate and technical education of the inhabitants of each county in the Principality, and to establish new secondary schools in areas where they were needed.

Section 17 of the Act defined "intermediate education" as meaning a course of education which does not consist chiefly of elementary instruction in reading, writing and arithmetic, but which includes instruction "in Latin, Greek, the Welsh and English Language and Literature, Modern Languages, Mathematics, Natural and Applied Science, or in some of such studies and generally in the higher branches of knowledge."

In the same Section of the Act the expression "technical education" is defined as including instruction in—

> "(i) Any of the branches of science and art with respect to which grants are for the time being made by the Department of Science and Art;
>
> (ii) The use of tools, and modelling in clay, wood, or other material;
>
> (iii) Commercial arithmetic, commercial geography, book-keeping, and shorthand;
>
> (iv) Any other subject applicable to the purposes of agriculture, industries, trade or commercial life and practice, which may be specified in a scheme, or proposals for a scheme, of a joint education committee as a form of instruction suited to the needs of the district;

but it shall not include teaching the practice of any trade, or industry, or employment."

The views of the Royal Commission on Secondary Education (1894–1895) on the traditional curriculum

31. The administrative confusion, resulting largely from divided control, had produced in the public mind vague and rather confused notions about secondary education.[1] It

[1] An official return of the pupils in Public and Private Secondary and other Schools (not being Public Elementary or Technical Schools) in England on 1 June, 1897, which was presented to Parliament in 1898 (C.–8634), showed how vague and indefinite was the contemporary conception of those schools which were furnishing what was known as secondary or intermediate education in its different grades.

was felt that effective steps should be taken to organise secondary education on the lines indicated by Matthew Arnold in 1866. In 1892 the Government introduced a Bill to enable counties to organise secondary education, but this measure had to be dropped. In October, 1893 an important conference was held at Oxford on secondary education in England(1), and partly as a result of this conference the Government appointed a Royal Commission on Secondary Education in 1894 under the Chairmanship of Mr. (afterwards Viscount) Bryce, with wider terms of reference than any of the earlier Commissions, " to consider what are the best methods of establishing a well-organised system of secondary education in England, taking into account existing deficiencies, and having regard to such local sources of revenue from endowments or otherwise as are available or may be made available for this purpose and to make recommendations accordingly."

In their Report, published in 1895, this Commission, the first to include women, of whom there were three among its 16 members, discussed in considerable detail the character and content of secondary education. After summarising the views of the Schools Inquiry Commission of 1868, they pointed out that since that time the problem had been seriously affected by the rise of other studies and other ideas in education. Among the factors of this change were the Endowed Schools Acts, the Elementary Education Acts, especially so far as they had occasioned the foundation of the higher grade and the organised science schools, the Technical Instruction Act, and the Local Taxation Act, 1890. The Commissioners pointed out that it was accordingly necessary to consider whether and in what sense the idea of education in secondary schools required modification. Accepting the Schools Inquiry Commission's scheme for three grades of secondary school, the Commissioners pointed out that in the first place the standard of age had changed ; in second grade schools the limit of age had distinctly advanced to 17 or 18, and in third grade schools to 15 or 16. This extension of the time spent at secondary schools was due to many causes, social as well as educational, but in second and third grade schools new subjects dealing with problems which the Schools Inquiry Commission of 1868 would have considered too complicated for a secondary school, had been introduced to give what was termed " special

(1) *Report of a Conference on Secondary Education in England convened by the Vice-Chancellor of the University of Oxford,* October 10 and 11, 1893. Clarendon Press. 1893.

preparation for employment." Technical subjects had been introduced in secondary schools and the whole system of technical institutes and colleges had come into being. Thus the school curriculum had been enlarged and pupils had in consequence tended to stay longer.

Secondly, the gradation of social classes adumbrated by the Schools Inquiry Commission, 1868, required to be modified, since the legislation which they recommended had done something to open schools leading directly to the Universities to the sons of men who fell into the categories neither of the rich nor of the educated.

Thirdly, the growth of special and technical studies in schools had created a branch of secondary education which, while not "a substitute for apprenticeship," was yet as distinctly a preparation for it or for an industry as the old first grade school was for a profession or for the University.

"The technical college, while in the strictest sense a school of applied science and art, yet supplies what is so distinctly a propaedeutic to industry that its encouragement may well seem a primary duty of the bodies specially charged with the care of both our wealth as a State and our well-being as a people. And its rise has no doubt modified our ideas as to Secondary Education."

The Commissioners pointed out that this modification, acting along with older and less obvious forces, had created conditions that could no longer be ignored. For one thing, it had tended to make what the Schools Inquiry Commission of 1864–1868 termed "a general education" at once more difficult and more necessary; more difficult because the premium placed upon proficiency in special studies had thrust the preparation for them back to a too early stage in the educational process; and more necessary because special studies without a broad basis in general studies were both ineffective and narrowing. The Commissioners then explained that their witnesses seemed to feel that no more serious danger threatened modern education than a too early specialisation. "It is instructive that witnesses representative of technical and classical education were agreed in regarding instruction in their special subjects as inadequate by itself, and in holding that secondary education suffered from a too narrow early curriculum, and we may add a too utilitarian spirit." Thus, Mr. Bothamley complained that in technical instruction they were "constantly hampered by the want of

mathematics and the want of foreign languages"; and Mr. Reynolds said "that boys came, especially from the private and public schools, singularly ill-prepared to take advantage of the curriculum in a technical college."(1)

In the following remarkable passage, which we quote in full, the Commissioners expressed the view that the difference between technical and secondary education is one not of kind or character, but of emphasis:—

> "We have spoken as if technical and classical instruction alike fell as subordinate or co-ordinate divisions under the common head of secondary education. We are aware that there are some who would limit the term education to the discipline of faculty and the culture of character by means of the more humane and generous studies, and who would deny the name to instruction in those practical arts and sciences by means of which man becomes a craftsman or a bread-winner. But this is an impossible limitation as things now stand. We have just seen that the training in classics may have as little liberal culture in it as instruction in a practical art; modern literature may be made a field for as narrow and technical a drill as the most formal science. Education inevitably becomes more and more practical, a means of forming men, not simply to enjoy life, but to accomplish something in the life they enjoy. We may, therefore, describe its general idea thus:— All education is development and discipline of faculty(2) by the communication of knowledge, and whether the faculty be the eye and hand, or the reason and imagination, and whether the knowledge be of nature or art, of science or literature, if the knowledge be so communicated as to evoke and exercise and discipline faculty, the process is rightly termed education.
>
> "Now, Secondary Education may be described as a modification of this general idea. It is the education of the boy or girl not simply as a human being who needs

(1) *Report of Royal Commission on Secondary Education* (1895), (C.-7862), pp. 132–135.

(2) The doctrine of the faculties of the mind, which influenced educational thought so profoundly during the nineteenth century, had already been successfully attacked by J. F. Herbart (1776–1841). See Appendix IV, p. 432; cf. also F. Ryland, *Psychology*, published in 1880 (seventh edition 1897), pp. 50–53.

to be instructed in the mere rudiments of knowledge, but it is a process of intellectual training and personal discipline conducted with special regard to the profession or trade to be followed. Plato in the *Protagoras* draws a distinction between the man who learns the arts of the grammarian, the musician, or the trainer as a craftsman, for trade, and the man who learns them as a private person or freeman, for education or culture.[1] But even culture is not an end in itself: it makes the private person of more value to society and to the State. All secondary schools, then, in so far as they qualify men for doing something in life, partake more or less in the character of institutes that educate craftsmen. Every profession, even that of winning scholarships, is a craft, and all crafts are arts. But if Secondary Education be so conceived, it is evident that under it technical instruction is comprehended. The two are not indeed identical, but they differ as genus and species, or as general term and particular name, not as genus and genus or as opposed terms. No definition of technical instruction is possible that does not bring it under the head of Secondary Education, nor can Secondary Education be so defined as absolutely to exclude from it the idea of technical instruction. Under the common head there are many species, each distinguished by the particular means and instruments employed and faculties exercised, but all agreeing in method and end, viz., the discipline of faculty by exercise. Technical instruction is secondary, i.e. it comes after the education which has awakened the mind by teaching the child the rudiments, or, as it were, the alphabet, of all knowledge, and the better the whole of this alphabet has been mastered the better and the easier will the later learning be. And secondary instruction is technical, i.e., it teaches the boy so to apply the principles he is learning, and so to learn the principles by applying them, or so to use the instruments he is being made to know, as to perform or produce something, interpret a literature or a science, make a picture or a book, practise a plastic or a manual art, convince a jury or persuade a senate translate or annotate an author, dye wool, weave cloth design or construct a machine, navigate a ship, or command an army. Secondary education, therefore, as inclusive of technical, may be described as education

[1] *Protagoras*, 312B.

conducted in view of the special life that has to be lived with the express purpose of forming a person fit to live it."[1]

The Commissioners' suggestions in regard to the Curriculum

32. In regard to curricula for secondary schools, the Commissioners refrained from laying down definite model curricula for schools of the three main types which they had contemplated. They held that it should be left to the local authority to determine the curricula in detail. "It is now pretty generally agreed that besides the literary and humanistic course of instruction, based upon the languages of classical antiquity, which tradition has established among us, and whose incomparable value no thoughtful man denies, ample provision must be made in schools for scientific teaching, beginning, if possible, with natural history and the other sciences of observation, and working up into chemistry and physics. It is further agreed that mathematics, while more closely allied to scientific subjects, ought to enter also into a literary course; that the chief tongues of modern Europe ought to be studied not only as instruments of linguistic training, but as the keys to noble literatures; and that full opportunities to boys and girls to prepare themselves for the particular occupations which they intend to follow in after-life, whether industrial or commercial, ought to be supplied by the teaching of the practical arts, such as the elements of applied mechanics and the subjects connected with agriculture, as well as of modern languages and of the kinds of knowledge most useful to the merchant or trader. These three elements, however, which we may call the literary, the scientific, and the technical, may be combined in a great variety of forms and proportions. Experience alone can show which forms and which proportions are most likely to be absolutely best, we will not say as a scheme of intellectual training, but even as fitted to the needs of particular classes of persons inhabiting particular areas and engaged in particular kinds of industry." . . . "Each of the three elements above named has vigorous forces behind it. Not merely tradition, but the influences of imagination and philosophy, commend the first. The second is strong in the pride of its recent triumphs and still swift advance. The sense of its practical utility in days when industrial and commercial competition

[1] *Report of the Royal Commission on Secondary Education* (1895), pp. 135–136.

grows constantly more severe is enough, perhaps more than enough, to secure its rightful place for the third. All have, in our view, a claim to be considered in the course of studies of every secondary school, and the last of the three will thrive all the better if the two former receive their fitting meed of recognition. Technical instruction must be considered not as the rival of a liberal education but as a specialisation of it, which, whether it comes earlier or later in the scholar's life, ought to be, as far as possible, made a means of mental stimulus and cultivation, and will be most successfully used by those whose intellectual capacity has been already disciplined by the best methods of literary or scientific training."[1]

The Commissioners' General Recommendations

33. In the summary of their recommendations, the Commissioners pointed out that the first need of secondary education was greater unity of control. Local authorities were required which should be responsible for all secondary (including technical) education within their respective areas. There should also be one central authority which, while leaving due freedom of action to the local bodies, could supervise the general interests of secondary education as a whole.

In regard to the provision of secondary schools, the first principle should be to utilise every existing element of the supply which was, or could be made, good of its kind. It was desirable, for instance, to utilise all those private schools (but those alone) which were really efficient and which accepted public tests of efficiency. Schools of the first grade for boys at least already existed in sufficient numbers. The deficiency which seemed most general was in the supply of second grade and third grade schools at a cost sufficiently low to place them within the reach of parents of limited means. The rapid growth and success of higher grade board schools, especially in great towns, indicated the extent of the demand for third grade secondary education at a cheap rate. The higher grade elementary schools were doing much to meet this demand in many places; but they could not satisfy the whole of it, and proprietary schools could not supply such education at the requisite price, unless they received aid in some form.

In organising the supply of schools it was of the utmost importance to provide adequately for the literary type of secondary education no less than for the scientific and technical type. The means of transferring pupils of promise from a

[1] *Report*, pp. 284–285.

lower to a higher place of education should be increased, and in doing this great care should be taken not to close the upward path against such pupils at too early an age.

"The training of secondary teachers should be systematic and thorough. At present the absence of such training is one of the causes which injuriously affect secondary education.

"In every phase of secondary teaching, the first aim should be to educate the mind, and not merely to convey information. It is a fundamental fault, which pervades many parts of the secondary teaching now given in England, that the subject (literary, scientific or technical) is too often taught in such a manner that it has little or no educational value. The largest of the problems which concern the future of secondary education is how to secure, as far as possible, that in all schools and in every branch of study the pupils shall be not only instructed but educated."

The Board of Education Act, 1899

34. The Royal Commission on Secondary Education recommended that one central Education Authority should be established. This was effected by the Board of Education Act, 1899, which merged the powers of the Education Department and the Science and Art Department, and the powers of the Charity Commissioners in respect of educational charities, in the new Board of Education, which was authorised to inspect Secondary Schools.(1) The control of the Board over secondary education was greatly increased by the Education Act of 1902, which empowered the newly established local education authorities for counties and county boroughs to aid secondary education and to provide new schools.(2) Thus, historically, the State had approached the problem of secondary education from three distinct directions. Firstly, as supervisor of educational trusts it had come to supervise the administration of endowed secondary schools. Secondly, as promoter of Natural Science and of the instruction given in Schools of Art, the State came to exercise in regard to Secondary Schools that more detailed supervision associated

(1) Board of Education Act, 1899, section 3 (1). "The Board of Education may by their officers, or, after taking the advice of the consultative committee hereinafter mentioned, by any university or other organisation, inspect any school supplying secondary education and desiring to be so inspected, for the purpose of ascertaining the character of the teaching in the school and the nature of the provisions made for the teaching and health of the scholars."

(2) A book which exercised considerable influence on public opinion at the close of the nineteenth century was a volume of Essays entitled "What is Secondary Education?" edited by Dr. R. P. Scott, the Joint Hon. Secretary of the Incorporated Association of Head Masters.

with the payment of State grants. Thirdly, the Board of Education Act, 1899, which combined the first two functions in one Department, vested it with power to inspect Secondary Schools as the central Department of State for Education.

Higher Grade Schools: The Cockerton Judgment, 1901: Higher Elementary Schools (1900)

35. The position of the Higher Grade Schools was seriously affected by the decision of the Court of Queen's Bench (1901) against the London School Board (upheld by the Court of Appeal) on the point raised by Mr. Cockerton, the Auditor of the Local Government Board, in 1899, that the School Board had spent the rates illegally on educating children on lines not provided for in the Code. This decision meant that enterprising School Boards were stopped from providing anything more than elementary education, and it was clear that a new Education Bill was required permanently to regularise the situation.(1) In consequence of this ruling, the Board of Education found it necessary to establish, by Minute dated 6 April, 1900, a new system of Higher Elementary Schools.(2) The Minute provided that these schools were to receive a higher rate of grant than the ordinary Public Elementary Schools on condition that they were so organised as to give a four-year course of instruction to children between the ages of 10 and 15, who had been certified by the Inspector as qualified to profit thereby. The curriculum was required to show a sufficiency of science instruction, both theoretical and practical, in each year, and to include one foreign language and elementary mathematics.(3) Special attention was devoted to drawing. Owing partly to the requirement that such schools must have a dominantly scientific curriculum, irrespective of local conditions, and partly to the general uncertainty in regard to the future of Higher Elementary Schools, as distinct from Secondary Schools, few schools of this type were recognised, and in 1916–1917 there were only 31 Higher Elementary Schools in England and 14 in Wales.(4)

(1) *R.* v. *Cockerton* (1901) 1 Q.B. 322, and *Rex* v. *Cockerton*, C.A. (1901) 1 K.B. 726.

(2) The expression "Higher Elementary School", which seems to have been modelled on the French *école primaire supérieure*, was first used as an official term in the Board's Minute of 6 April, 1900

(3) *Code of Regulations for Day Schools*, 1901 (Cd. 513), Article 110.

(4) The Regulations for Higher Elementary Schools were withdrawn by the Board in 1919, in view of the provisions regarding Central Schools and Central Classes in Section 2 (I) (*a*) of the Education Act, 1918.

See our Report on *The Education of the Adolescent* (1926), pp. 25–31.

The Education Act, 1902

36. In 1902 an Education Act was passed which marked a very important stage in the development of a national system of education. The Act recognised for purposes of higher education two types of administrative area, viz., counties and county boroughs. The councils of these two types of area were constituted the local education authorities for higher education as well as elementary education.

The council of every non-county borough with a population of over 10,000 and of every urban district with a population of over 20,000 was constituted the local education authority for the borough or district, as the case might be, for elementary education only. The councils of every county and county borough were required " to consider the educational needs of their area and take such steps as seem to them desirable, after consultation with the Board of Education, to supply or aid the supply of education other than elementary and to promote the general co-ordination of all forms of education."(1) No definition was given of higher education, which was merely described as " education other than elementary." In fact, however, three main types of post-primary education could be distinguished in 1903:—(i) the continuation of primary education in the Public Elementary Schools themselves within the limits assigned by Section 22 (2) of the Education Act, 1902.(2) (ii) Its development and specialisation in various directions in Evening Schools, Science Classes, Trade Schools, etc.; (iii) Its transference to a higher plane in Secondary Schools. Owing to the long neglect of secondary education by the State, post-primary schools of various types had grown up without any proper co-ordination. As indicated in Section 19 of this chapter, there existed a variety of standards fixed by numerous examining boards. A tradition of co-operation between the Board of Education and the new local education

(1) Education Act, 1902, sections 1 and 2. The population referred to was that according to the Census of 1901. See Section 23 (8) of the Act.

(2) Section 22 (2) of the Education Act, 1902, runs:—

"The power to provide instruction under the Elementary Education Acts, 1870 to 1900, shall, except where those Acts expressly provide to the contrary, be limited to the provision in a public elementary school of instruction given under the regulations of the Board of Education to scholars who, at the close of the school year, will not be more than sixteen years of age: Provided that the local education authority may, with the consent of the Board of Education, extend those limits in the case of any such school if no suitable higher education is available within a reasonable distance of the school."

authorities had to be slowly built up, due account had to be taken of vested interests, and care had to be exercised that the extension of facilities for secondary education should not involve any lowering of standards. With the aim of inducing greater clearness of thought regarding the main purpose to be kept in view, the Board of Education sought in their new Regulations for Secondary Schools for 1904–1905 to set a standard and to supply a working definition of the Secondary School as distinct from other types of post-primary education.

In this enterprise the Board were confronted with a difficult problem. They had to take into account the tradition of grants for individual subjects established by the Science and Art Department which had been merged in the Board of Education by the Board of Education Act, 1899. Furthermore, there was wide variety of type in the so-called Secondary Schools. The instruction provided in the smaller endowed Grammar Schools was still often at a low point of efficiency; their teaching staffs were poorly paid and lacking in adequate qualifications, and in general their curriculum was frequently neither coherent nor liberal.(1)

A large number of the former Higher Grade Schools which had been taken over by the new local education authorities from the School Boards in 1903 and converted into Municipal Secondary Schools had, owing to the system of grants elaborated by the former Science and Art Department, become unduly dominated by Science subjects; indeed many of them had been Organised Science Schools.(2) The merging of this important type of higher primary education, and also of a number of the Pupil Teacher Centres which had

(1) Many of the less prosperous endowed Grammar Schools also arranged Science courses in order to earn the grants paid by the Science and Art Department to Organised Science Schools and classes.

(2) The Science and Art Department, in order to encourage the establishment of schools giving systematic instruction in Science, offered attendance grants in 1872 to such schools and institutions as adopted one or other of the special courses outlined in the Science and Art Directory. These Organised Science Schools, as they were called, increased steadily till 1894, when they numbered 112. In order to check the natural tendency for the curriculum of these schools to become unduly developed on the scientific side, the rules in the Science and Art Directory for 1894 required that the time-tables of such Schools should provide "for instruction in those literary subjects which were essential for a good general education." In 1895 both the curriculum and the method of payment in Schools of Science were modified. Manual work and instruction in literary and commercial subjects became an integral part of the regular work of such schools to which a certain time had to be devoted. There were 187 of these schools in 1900.

slowly developed since 1870, into Secondary Schools of the academic type marks an important stage in the history of secondary education in England and Wales, since these new Municipal Secondary Schools, influenced by the tradition of the Higher Grade Schools, attached more weight on the whole to scientific and modern studies than the older types of Secondary School.

The Day Schools carried on in Technical Institutes which were in some instances converted into Municipal Secondary Schools at this time, had a marked vocational tendency and usually had a predominantly scientific curriculum.(1) Nearly all the Public Schools and many of the Girls' Schools corresponding to them, held aloof from the Board and from other schools, and their curriculum exercised little influence outside their own precincts.

The Regulations for Secondary Schools, 1904–1905

37. The new Regulations for Secondary Schools issued by the Board of Education every year as from 1904 grew up round the old provisions of the Directory of the Science and Art Department which was issued annually down to 1901–1902. Detached Science classes had in many instances been gradually consolidated into Schools of Science.(2) These Schools of Science had been developed into schools of what was known as the " Division A " type, providing a course of instruction in Science in connexion with, and as part of, a course of general education. Grants were afterwards given to schools of the " Division B " type in which Science did not form the preponderating element in the instruction. In the light of the data collected by their Inspectors after a series of systematic inspections of schools of different types, the Board in 1904 abolished all grants for individual subjects and provided a main single grant for an approved four-year course covering the period from 12 or 13 to 16 or 17 years of age. *The most salient defect in the new Regulations for Secondary Schools issued in 1904 is that they failed to take note of the comparatively rich experience of secondary curricula of a practical and quasi-vocational type which had been evolved in the Higher Grade Schools, the Organised Science Schools and the Technical Day Schools. The new Regulations were based wholly on the tradition of the*

(1) Report of the Board of Education for the year 1905–1906, p. 55.

(2) In the Regulations for Secondary Day Schools for 1902–3 and 1903–4, issued by the newly established Board of Education, the Schools of Science were classed as " Secondary Day Schools (Division A)," and the Grammar Schools were described as " Secondary Day Schools (Division B)."

Grammar Schools and the Public Schools. Furthermore, the concept of a general education which underlies these Regulations was divorced from the idea of technical or quasi-technical education, though in reality much of the education described as 'liberal' or 'general' was itself vocational education for the 'liberal' professions.[1] In other words, the statesmanlike and far-sighted recommendations of the Royal Commission on Secondary Education of 1895, summarised in Sections 31–3 above, were passed by. *An unreal and unnecessary division was introduced between secondary education and technical education.*

In the Regulations for Secondary Schools issued in 1904, the Board attempted to set a standard and supply a working definition of a Secondary School as distinct from other forms of higher education.[2] A Secondary School is defined as "a Day or Boarding School offering to each of its scholars up to and beyond the age of 16, a general education, physical, mental and moral, given through a complete graded course of instruction, of wider scope and more advanced degree than that given in Elementary Schools."[3]

The Regulations provide that the curriculum of a Secondary School as so defined must include an approved course of general instruction extending over at least four years, and that the average age of the scholars in any class commencing the course must not be less than 12 years.

The Regulations further provide that a Secondary School as thus defined must offer at the least a full four-year course providing instruction in a group of subjects so selected as to ensure a due breadth and solidity in the education given. This was indicated by a definite allocation of time per week

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[1] See §§ 3 and 4 of this chapter and Appendix II.

[2] The division of education into "elementary" and "higher" embodied in Part II of the Education Act of 1902 is not very satisfactory. In Section 170 (3) of the Education Act, 1921 the expression "higher education" is defined as meaning education other than elementary education. Unfortunately in the long series of Education Acts from 1870 there is no definition of elementary education.

See our Report on *The Education of the Adolescent* (1926) pp. 265–266.

Section 3 of the Education Act, 1870 defines "Elementary School" as follows:—"The term 'Elementary School' means a school or department of a school at which elementary education is the principal part of the education there given, and does not include any school or department of a school at which the ordinary payments in respect of the instruction from each scholar exceed ninepence a week."

[3] It should be noted that though the Board of Education have defined the expression "Secondary School" they have not attempted to define "Secondary Education," nor is there any statutory definition of "Secondary Education." See pages 266–268 of our Report on *The Education of the Adolescent* (1926).

to the principal subjects, which were defined as (i) the English language and literature, together with Geography and History; (ii) at least one language other than English; (iii) Mathematics and Science, both theoretical and practical; and (iv) Drawing. For girls Practical Housewifery must be included in the course, and for both boys and girls some provision must be made for Manual Work and for Physical Exercises. The object of these rules was to ensure a certain amount of breadth and richness in the curriculum of recognised Secondary Schools, and to withhold recognition from schools offering only an education which was stunted, illiberal, unpractical, or over-specialised.

"Where two languages other than English are taken, and Latin is not one of them, the Board will require to be satisfied that the omission of Latin is for the advantage of the School."

This last provision illustrates the persistence of the classical, or at any rate the Latin tradition, in English higher education.[1] It will be remembered that the Schools Inquiry Commissioners in their Report of 1868 recommended that Latin should be included even in the curriculum of their proposed third grade schools with a leaving-age of 14 or 15.[2]

The Prefatory Memorandum to these Regulations states that the Board desired to emphasise the following three points as being essential to the course of general education given in a Secondary Day or Boarding School for pupils up to and beyond the age of 16:—

> "(*a*) The instruction must be general; i.e. must be such as gives a reasonable degree of exercise and development to the whole of the faculties, and does not confine this development to a particular channel, whether that of pure and applied Science, of literary and linguistic study, or of that kind of acquirement which is directed simply at fitting a boy or girl to enter business in a subordinate capacity with some previous knowledge of what he or she will be set to do. A Secondary School should keep in view the development and exercise of all

[1] cf. the following passage from the Report of the Board of Education for 1906–1907, p. 68:—

> "The Board attach so much importance to the inclusion of Latin where possible in the curricula of Secondary Schools that they have for some years past made it a rule that in all Schools which take two languages other than English, Latin must be one of the two unless there is clear educational advantage in its omission."

[2] See Section 16 of this chapter.

the faculties involved in these different kinds of training, and will fail to give a sound general education to its scholars in so far as it sends them out, whether to further study or to the business of life, with one or other of these faculties neglected, or with one developed at the expense of the rest. Specialisation in any of these directions should only begin after the general education has been carried to a point at which the habit of exercising all these faculties has been formed and a certain solid basis for life has been laid in acquaintance with the structure and laws of the physical world in the accurate use of thought and language, and in practical ability to begin dealing with affairs.

(*b*) The course of instruction must be complete; i.e., must be so planned as to lead up to a definite standard of acquirement in the various branches of instruction mentioned above and not stop short at a merely superficial introduction to any one of them. But in no case can the course at a Secondary School be considered complete which is not so planned as to carry on the scholars to such a point as they may reasonably be expected to reach at the age of 16.

(*c*) The instruction must be graded in its various branches . . . . Instruction which is not progressive, while it may be of some use as drill and discipline, is of little real educational value. It gives only a superficial and transitory acquirement, while at the same time it fails to interest or to stimulate the scholar."

The basic idea underlying the Prefatory Memorandum and the Regulations of 1904 so far as they deal with curriculum, seems to be that of a general liberal education as conceived by Wilhelm von Humboldt and Matthew Arnold.(1) These thinkers, however, assumed that the general liberal education would be prolonged at the Gymnasium or the Public School (or Grammar School) to the age of 18 or 19, when the pupil proceeded to the University and continued it there. In the attenuated form in which it is embodied in the Board's Regulations for Secondary Schools for 1904–1905, this 'general education' is designed primarily to cover the period between the ages of 13 and 17, and the vocational motive, even in its mildest form, is excluded.

The Regulations imply that the main function of the Secondary School is to provide 'general education.' It is

(1) See Appendix II, pp. 409–12.

not easy, however, to discover what precisely is meant by that phrase since it seems to bear at least two meanings which may or may not be traceable to a common source. Thus in (*a*) above, summarised from page 7 of the Prefatory Memorandum to the Regulations, 'general education' is viewed as a comprehensive course comprising the study of a number of specific branches of knowledge in contrast to a type of education based on a narrow range of subjects. But an attempt is made to think of a 'general education' as producing other results than merely the acquisition of particular kinds of knowledge in terms of the subjects specified. Thus, "A Secondary School should keep in view the development and exercise of all the faculties involved in these different kinds of training, and will fail to give a sound general education to its scholars in so far as it sends them out, whether to further study or to the business of life, with one or other of these faculties neglected, or with one developed at the expense of the rest." This is an entirely different conception which is merged into the notion of the comprehensiveness of the course.

It would seem, therefore, that considerable ambiguity attaches to the term 'general education.' Indeed, it can hardly convey any clearly defined meaning so long as the problem of education in Secondary Schools is approached from the point of view of the subjects to be studied rather than from that of the development of the pupil as an individual.

A careful perusal of paragraph (*a*) of the Prefatory Memorandum to these Regulations, quoted above, shows that it was chiefly influenced by the now discarded 'faculty' psychology, according to which every normal individual was supposed to possess certain faculties of mind which could be exercised and disciplined by appropriate studies, irrespective of the intrinsic value of the studies themselves.(1)

The result of this doctrine of developing the various faculties' would be that teachers would attach special importance to certain subjects, particularly Latin and Mathematics, which were considered to be specially valuable as intellectual disciplines, and the only restriction apparently would be that they would be prevented from making the mistake of the Organised Science Schools and Higher Grade Schools and concentrating their attention unduly on a particular group of non-humanistic subjects. Their task would be to deal with four or five groups of subjects and to

(1) See Chapter III, Part II, § 19, and Appendix IV.

see that no one group occupied much more time than the others, or was carried too far in advance of them.

It is, however, by no means clear in the wording of the Prefatory Memorandum and the Regulations whether the distinction had been appreciated between two wholly different forms of 'faculty training'—the 'unitary' form, which postulated that one subject or group of subjects could be made to yield training for all the faculties, and the 'multiple' form, which assigned each faculty to a separate subject. On the whole, it may be inferred that the Memorandum inclines to the latter interpretation, though present day opinion would regard its logic as unsound and the identification of a faculty with a subject as wholly arbitrary. The use of the term 'faculty' is now commonly avoided, not as denying the existence of mental powers and abilities that are capable of being trained, but because these powers and abilities cannot be regarded as separate and self-contained qualities and are not capable of the sort of training which was formerly envisaged.

It is laid down in the Prefatory Memorandum that the course of instruction must be graded (or progressive) and complete. It is hardly possible to say when a course is complete unless the aim be first defined. Where, as in this case, the aim is so indefinite, it is not possible to do more than to say that a course is complete when the pupils have gone so far in it as they may be able to go at a particular age and in particular circumstances.

In the philosophy underlying these Regulations 'the general progressive complete course' is considered without relation to the child. This view is contrary to the idea which is now generally accepted, of the pupil as a developing organism, assimilating what best suits him or her at each successive stage of growth, and always dealing with material which he can understand and control.(1)

The influence of the Board's Regulations for Secondary Schools for 1904–1905 *and subsequent years on the Curriculum and General Character of Secondary Schools*

38. Perhaps the most striking feature of the new Secondary Schools provided by local education authorities, which have so greatly increased in numbers since 1902, is their marked disinclination to deviate to any considerable extent from the

(1) See the *Handbook of Suggestions for the consideration of teachers and others engaged in the work of Public Elementary Schools* (1937), published by the Board of Education, in which the idea of the child as a developing organism is discussed in detail.

main lines of the traditional grammar school curriculum. That conservative and imitative tendency which is so salient a characteristic in the evolution of English political and social institutions, is particularly noticeable in this instance. The natural tendency, however, to keep within the ambit of the grammar school tradition was greatly re-enforced, and in a sense fostered, by the Regulations for Secondary Schools issued by the Board of Education in 1904–1905 and succeeding years, and later by the First School (Certificate) Examination as organised in 1917.(1)

As will be seen from the detailed account of the Regulations of 1904 given above, the Board took the existing Public Schools and Grammar Schools as their general *cadre* or archetype for secondary schools of all kinds. The further development of post-primary schools with traditions somewhat different from those of the Grammar Schools, such as the Higher Grade Schools, the Organised Science Schools and the Day Technical Schools which had sprung into existence in the last quarter of the nineteenth century, was definitely discouraged and new Secondary Schools were in effect compelled to take as their model the curriculum of the existing Public Schools and Grammar Schools. The tendency of Secondary Schools maintained or aided by local education authorities to imitate the Public Schools and Grammar Schools has since 1902 been considerably accentuated by the fact that economic difficulties have forced many of the old endowed schools to accept financial aid from public funds and thus to become an integral part of the public system of education. From some points of view the new Secondary Schools benefited by having a definite model to copy. It gave them standards of scholarship and internal organisation and an ideal of corporate spirit which, if somewhat limited, were also high; and it promoted healthy competition with the older schools for University and other scholarships which has done much to open the public and local services and the learned professions to poorer children of ability. Indeed within limits it would be difficult to appraise too highly the valuable contribution which the new type of Secondary School has made to English education as a whole. On the other hand, on a dispassionate retrospect of the history of post-primary education since 1900 we cannot but deplore the fact that the Board did little or nothing after the passing of the Education Act of 1902 to foster the development of secondary schools of quasi-vocational type designed

(1) See p. 80. See also Chapter VII.

to meet the needs of boys and girls who desired to enter industry and commerce at the age of 16.

The need in a highly industrialised society for post-primary schools of non-academic type with an orientation towards commerce or industry was shown by the development of the Central Schools in London and Manchester in 1911–12, and of the Junior Technical Schools from 1913 onwards.(1)

The present difficulties in the field of secondary education have arisen largely out of the confusion which began about 1904 *between a type of secondary education appropriate to the needs of boys and girls between the ages of* 11 *to* 12 *and of* 16 *to* 17 *and the traditional academic course orientated towards the Universities.*

In 1904–5 there were on the Grant List only 575 Secondary Schools containing 94,698 pupils. On 1 October, 1936, there were on the Grant List 1,397 Secondary Schools containing 484,676 pupils. This vast increase in the provision of Secondary Schools of the academic type and of the number and variety of pupils attending them could hardly have been foreseen in 1904.

The Regulations for Secondary Schools for 1906–1907 *: Free Places : the Bursary System : individual subjects*

39. In 1907 the Regulations were considerably modified and provided, *inter alia*, that in all schools in which a fee was charged a proportion of places must be open without fee to scholars of Public Elementary Schools. The ordinary proportion was fixed at 25 per cent. of the admissions in each year. In order to secure that this provision would not have the effect of lowering the standard of education provided by the school, applicants for Free Places were required to pass an entrance test of attainments and proficiency suited to their age and previous instruction, and of a standard such as the Board could approve as ensuring their fitness to profit by the education given in a Secondary School.(2)

In 1906–7 the Board of Education began to abandon the pupil teacher system and issued Regulations for an alternative system known as " the Bursary System " whereby the general education of future teachers might be continued uninterrupted in Secondary Schools until the age of 17 or 18. Boys and girls who intended to become Elementary School teachers and had received their previous education at a Secondary School,

(1) See § 45 of this chapter, and our Report on *The Education of the Adolescent*, pp. 31–2.

(2) *Regulations for Secondary Schools in England*, 1907 (Cd. 3952), Regulation 20.

might receive a special grant from the Board as bursars to continue at that Secondary School for an additional year.(1) The adoption of this new policy for educating in Secondary Schools boys and girls who intended to become Elementary School teachers, and the arrangements for Free Places introduced in 1907 had the effect of bringing very large numbers of pupils from Public Elementary Schools into the Secondary Schools maintained or aided by local education authorities. In many Secondary Schools maintained by local education authorities a large proportion of the pupils who remained beyond the age of 16 were intending teachers.

In respect of curriculum the Regulations for 1907 provided for greater variety of aim and flexibility of arrangement. The four-year course for scholars between roughly 12 and 17 years of age was now merged in a general curriculum for the whole school, and recognition might be withheld or withdrawn if an adequate proportion of scholars did not remain for at least four years in the school or did not remain in it up to the age of 16. But in rural areas and small towns, where these conditions could not be secured, and yet the provision and support of a Secondary School were clearly advantageous, a three-year school life and a leaving age of 15 might be accepted.

The Regulations for 1907 and subsequent years provided that the curriculum should make appropriate provision for organised games, physical exercises, manual instruction, and singing. The Regulations stated that provision should be made for the elements of housewifery in the case of girls. For girls above the age of 15, courses in practical housewifery might be taken instead of science.

In regard to individual subjects, the Board early took into consideration both the actual state of teaching and the general lines on which improvement might be sought. From 1904 onwards a special section of the Board's Annual Report has frequently been devoted to some subject in the curriculum such as English, Geography, Science; and Circulars on the methods of teaching subjects in Secondary Schools—English, History, Latin, Modern Languages, Music, Mathematics and the like have been issued from time to time.(2) In this context mention should be made of the founding of various Associations largely composed of secondary school teachers of subjects such

(1) See pp. v–ix of the Prefatory Memorandum to the *Regulations for the Preliminary Education of Elementary School Teachers*, 1907, and also Chapter VI thereof (Cd. 3444).

(2) A Report by the Consultative Committee on *Practical Work in Secondary Schools* was published in 1913 (Cd. 6849).

as English, History, Modern Languages, Classics, Mathematics and Science. All these bodies have at least two aims in common—to secure for their subject its appropriate place in the curriculum and to advocate all possible steps for the improvement of its teaching.

The reaction against purely general courses as reflected in the Reports of the Board of Education for 1912–13 *and* 1913–14*: the Board's Memorandum (Circular* 826*) on Curricula of Secondary Schools* (1913)

40. In their Report for 1912–13 the Board stated that their Regulations for Secondary Schools were sufficiently elastic to allow a considerable amount of specialisation in the curriculum where local circumstances or the particular aims of the school appeared to require it. "It would clearly be improper to allow pupils to concentrate their attention upon a single subject or group of subjects before a good foundation of general education has been laid, or to carry specialisation so far as to encroach upon the sphere of the Technical School; but subject to these limitations the Board are prepared in suitable cases to approve schemes of instruction which vary considerably from that of the normal Secondary School. The variation may take the form of specialised work in the higher classes alone, or the school course may be given a certain bias throughout with the object of developing interest in and capacity for the occupations, whether rural, industrial, or commercial, which the majority of pupils are likely to take up."

In 1913 the Board receded still further from their original policy of insisting on general courses and in their Report for 1913–14 outlined their future policy in regard to specialised and vocational courses in Secondary Schools. After pointing out that the existing Regulations aimed at encouraging considerable variation in the curriculum according to local circumstances and the legitimate aims of particular schools, the Board stated that such variation might be effected by means of specialised work in the higher courses or by means of a definite bias, rural, industrial or commercial, given to the whole school course. At the same time, care must be taken to prevent specialisation among pupils who had not a sound foundation of general education, or such specialisation as would encroach upon work proper to Technical Schools. All school work might in some sense be regarded as vocational, since it should be planned with due regard to the probable future of the pupils. The Report stated that some 70 or 80

Secondary Schools already had a definite vocational bias. The courses in these schools might be generally classed as (*a*) rural or agricultural; (*b*) commercial; (*c*) domestic for girls; (*d*) engineering for boys.

In an important memorandum on Curricula of Secondary Schools (Circular 826), issued in 1913, the Board pointed out that Secondary Schools had a two-fold function. They provided a general preliminary education for those who aimed at occupations or professions requiring highly trained intelligence and who meant to carry on their educational preparation for life to a considerably later age. Many such pupils would pass from school to the Universities or other places of higher education. The Secondary Schools were also responsible for the education of a very large number of pupils who would leave school at or about the age of 16 and, contemplating no further full-time education, would at once proceed to posts in public offices, commercial houses, and manufactories, or enter upon such occupations as farming and retail trade. In many schools these two groups of pupils had to a great extent to be taught together and one of the chief problems of school organisation was to devise a common course of work suitable for both groups. It was specially important that Secondary Schools should not further complicate the problem of organisation by attempting additional work of a kind that lay outside their proper sphere. The relation between the Technical School and the Secondary School was materially affected by the increasingly widespread conviction that even the general education of boys and girls would gain in effectiveness if their work at school were to some extent brought into direct connexion with their probable occupations in after life. Many interesting experiments were already being made in this direction and there was room for a much wider development of activities of a definitely practical kind which, hitherto, had been generally held to lie exclusively within the scope of the Technical School.

The Board stated in this Circular that in certain instances they were prepared to accept special courses of a vocational character, such as courses in commercial, agricultural, and domestic subjects. In the middle Forms of Secondary Schools the special work in commercial subjects for pupils over the age of 15 might include Shorthand, Business Methods, Typewriting, and the Principles of Accounts; but special courses in Commercial History and Commercial Geography would not be accepted for middle forms, and the work in

Modern Languages should not be primarily concerned with their commercial use. This special commercial work should not in the Board's view begin before the age of 15 and should not as a rule occupy more than one-fifth of the whole school time. In regard to domestic courses the Board, under Article 9 of the Regulations for Secondary Schools, might approve for girls over 15 the partial or entire substitution of a combined course in Housecraft for Natural Science and for Mathematics other than Arithmetic. This combined course should include both Laundry-work and Cookery but not necessarily Needlework. If the combined course extended for more than one year, courses might be added in one or more of the following subjects :—Home Nursing, First Aid, Care of Children, Hygiene, or Household Management generally.

The suggestions made in Circular 826 (1913) in respect of the provision in the main portion of Secondary Schools of special courses designed to prepare the pupils for their future occupations in life, though well judged and based on sound principles, appear to have had very little effect. This was partly due to the outbreak of war in 1914, but in a far greater degree to the standardisation of the First School Examination in 1917, which we describe in Section 42 of this chapter.

The influence of Modern Psychology on traditional ideas about the Curriculum

41. The traditional psychology of the earlier nineteenth century, with its emphasis on faculties and its belief in the doctrine of formal discipline or mental transfer, played an important part in perpetuating a curriculum common to all pupils. It was tacitly assumed that most boys and girls were equipped with the same natural endowments, that most of them developed in much the same way and at almost the same rate of progress, and that all learned by the same methods. Little attention was paid to individual differences in interests or abilities. If it were objected that the content of the curriculum was uninteresting or difficult, it was agreed that at any rate it was good for mental training. Too frequently, however, little effort was devoted to the selection of content appropriate to the needs, interests, and abilities of the pupils, and time and attention were concentrated on 'drill' and exercises.

Towards the close of the nineteenth century the faculty psychology was shown to be fallacious[1]; and in the early years

[1] See Appendix IV.

of the present century the doctrine of formal discipline or transfer, while it was not wholly discarded, was redefined with severe reservations on its operation.(1) Another important change, resulting in part from theoretical considerations and experimentation, and in part from practical experience with a constantly increasing body of pupils in secondary schools, has been the light thrown upon individual differences in interests, abilities, and rates of physical development and intellectual progress. Furthermore, increasing information is being collected on the effects on pupils of differences in cultural, social and economic environment. Finally, the whole approach to the learning process has been modified in the light of these changes; it is recognised to-day that he learns best who learns with interest and with a purpose, or to put it in another way, he learns best who sees meaning and significance in what he learns.

It is evident that these changes in the psychological foundations must be followed by changes in the organisation of the curriculum and its content. The curriculum, to have meaning for the learners, must be adapted to the stage of development of the pupils concerned and must be related to the general environment in which they are being educated. In practice this must result in the discarding of a good deal of content in most subjects that has survived from the days when drill and exercises were emphasised for the sake of mental training. It means further that the content must be more realistic in the sense that it grows out of and develops with the expanding experience of the pupils. It means, finally, that teachers must be on their guard, first, to see that instruction is adapted to the interests and abilities of the pupils, and, secondly, to remember that subjects were not invented for scholastic purposes, but are the tools and instruments which the human race has crystallised out of its experience in order to understand the world in which it lives.

External Examinations after 1902: *The Standardisation of the First School Examination and the Second School Examination in* 1917–1919: *Influence of the First School Examination on the Curriculum.*

42. The Board's Inspections of Secondary Schools from 1902 onwards tended to show that external examinations were having unfavourable reactions on the work of many schools, often leading to cramming and over-pressure; that they

(1) See Appendix V.

frequently set wrong ideas before schools and pupils; and that by their syllabuses and papers they often impeded improvements in method. The schools themselves drew attention to the restrictive effects of these external tests on their methods and curricula, and to the difficulties caused by the conflicting requirements of the various examinations for which they were obliged to prepare pupils. In 1904 the Board, with a view to remedying this state of affairs, inserted provisions in the Regulations for Secondary Schools, prohibiting the presentation of pupils under the age of 15, without their sanction, for any external examinations, except one which comprised the whole school, or one held solely for the award of scholarships or exhibitions. In 1909 a fresh regulation was introduced empowering the Board to require any school to submit such part of the school as the Board might think fit, for an examination approved by the Board for the purpose. In 1909 the Board referred the problem of examinations in Secondary Schools to the Consultative Committee, whose Report, published in 1911, substantially confirmed the conclusions at which the Board, in their inspection of the schools, had arrived. The main findings of the Committee were :—

(1) That the presentation of young and immature pupils for external examinations was mischievous.

(2) That the various examinations were in urgent need of co-ordination and that for ordinary purposes each school should be connected with one Examining Body only.

The main needs were to reduce the number of examinations; to ensure that their syllabuses should be appropriate as an indication of the degree and the type of knowledge that might reasonably be expected of Secondary School pupils of various tastes and capacities at successive stages of development; to secure a reasonable uniformity in the standard and method of awards in all examinations taken at the same age; and to arrange that examinations of similar standard should be accepted, with reasonable conditions, by Universities and professional bodies in place of their own preliminary examinations. The Consultative Committee recommended that for the solution of the problem application should be made to the University Examining Bodies.

After prolonged negotiations in 1914, 1915 and 1916 the various examining bodies consented to modify their existing examinations in accordance with the Board's suggestions. Fourteen examinations were accordingly recast or brought

into existence between 1917–19, seven of which—known as the First School (Certificate) Examinations—were for pupils of about 16, and seven—known as the Second School Examinations—for pupils of about 18. The former were general in character and required that at least five subjects should be offered, one from each of three groups, namely English subjects; foreign languages; science and mathematics. The latter were specialised examinations in one of three groups: classics; modern studies; science and mathematics. In September, 1917, the Board established the Secondary School Examinations Council as an advisory body to co-ordinate the standard of these examinations and to secure that the methods of award were satisfactory.

The First School Examination as standardised in 1917 had, on the whole, beneficial effects on Secondary Schools, and the Certificate, or School Certificate, as it was popularly called, soon acquired very considerable prestige with employers. The examination had the effect of setting a standard before the Schools and of bringing the weaker Secondary Schools up to a certain level of efficiency. On the other hand, the fact that this examination soon came to be generally regarded as the *terminus ad quem* for pupils under the age of 16, had the effect of stereotyping and narrowing the curriculum. The examination unquestionably checked effectively any tendency to develop special courses in the main portions of Secondary Schools for pupils below the age of 16 on the lines indicated in the Board's Memorandum on Curricula (1913), summarised in Section 40 above. Though the various recognised examining bodies offered and continue to offer a wide range of alternatives in their syllabuses for this examination, the majority of the pupils presented for it offer a comparatively restricted number of subjects, namely—English, French, Mathematics, Science, Geography, History, Latin, and to a less extent Art.[1] This is probably largely due to the staffing arrangements in Secondary Schools. In Circular 1034, issued in March, 1918, the Board of Education explained that it was a cardinal principle that this examination should follow the curriculum and not determine it. In the actual working of the Examination this principle has been reversed, and there can be little doubt that in many Secondary Schools the Certificate Examination is now the dominant factor in determining the curriculum for the majority of the pupils below the age of 16.

[1] See Chapter II, §7, Table 10.

Three causes tending to produce uniformity in the curriculum for pupils below the age of 16

43. *In general it is possible to distinguish three main causes which have combined to produce that uniformity which characterises most of the existing Secondary Schools particularly in the provision made for the training and instruction of pupils up to the age of* 16. *Firstly there is the traditional prestige of the Public Schools and the Grammar Schools which has tended to assimilate the newer types of Secondary School, and particularly those maintained or aided by local education authorities, to the grammar school type. In the second place this natural adherence to a traditional type of higher education was greatly reinforced and consolidated by the Regulations for Secondary Schools issued by the Board of Education in* 1904–1905 *and subsequent years. In the third place the First School (Certificate) Examination as organised in* 1917 *has undoubtedly had the effect of strengthening and intensifying the tendency towards uniformity.*

It is true indeed that the various examining bodies offer a comparatively wide range of alternatives in their syllabuses for the Certificate Examination, but as we have shown above, there is a strong tendency to present candidates in the traditional subjects in which the teachers feel most at home.

Official Reports on the principal subjects of the Curriculum, 1918–1921

44. In 1915–1919 four special Committees were appointed to inquire into the position of Natural Science, Modern Languages, Classics and English in the educational system. The Reports of the Committees on Natural Science and on Modern Languages were published in 1918, and the Reports of the Committees on the Classics and on English in 1921.[1] These Reports contain many important and valuable suggestions, bringing under review the organisation of the secondary school curriculum and the scope of instruction in the four subjects in question. One result of these Reports was to direct attention to the congestion of the curriculum and the

[1] *Report of the Committee appointed to inquire into the Position of Natural Science in the Educational System of Great Britain* (London, 1918); *Report of the Committee appointed by the Prime Minister to inquire into the Position of Modern Languages in the Educational System of Great Britain* (London, 1918); *Report of the Prime Minister's Committee on the Position of Classics in the Educational System of the United Kingdom* (London, 1921); *The Report of the Departmental Committee appointed to inquire into the Position of English in the Educational System of England* (The Teaching of English in England), London, 1921.

overcrowding of the time-table. In an important Circular (Circular 1294, dated 8th December, 1922) the Board of Education attempted to co-ordinate the recommendations in these four Reports, and came to the conclusion that it was only possible to satisfy the minimum demands for time made for the four subjects by abandoning the principle that the curriculum should be "general" in the sense that it dealt with all the traditional subjects.(1)

The development of Trade Schools and Junior Technical Schools

45. A number of full-time day Trade Schools, mostly for boys, were established, especially in the London area, from about 1900. The first of these was the Trade School for Furniture and Cabinet-making founded at the Shoreditch Technical Institute in 1901 with a three-year course. These Trade Schools were designed to take boys on or near the completion of their elementary school career for a period of one, two or three years and to give them a specialised training that would fit them to enter into workshop or factory life about the age of 16 with a definite prospect of becoming skilled workers. The basic aim of the courses was to afford such an initial training in Handicraft and such an understanding of the principles underlying workshop practice as would make the learner an asset of value when he entered the workshop.(2) These Trade Schools received grant as Day Technical Classes from 1904–5 onwards under Article 42 of the Board of Education Regulations for Evening Schools, Technical Institutions, etc., which enabled Technical Schools to receive aid for Day Technical Classes attended by pupils who had completed their elementary education. Many of the full-time Trade Schools were organised as courses within a Technical College or Institute. The Board deliberately adopted a cautious policy in respect of these full-time day Technical Classes from 1905, in view of the fact that the improvement of the teaching of drawing in Public Elementary Schools since 1890, and the introduction of practical subjects such as woodwork, metalwork and cookery into the curricula both of Public Elementary Schools and of Secondary Schools, seemed to render the need for Day Technical Classes of the

(1) See Chapter IV, p. 188.

(2) See the report on the London Trade Schools for boys and girls in L.C.C. Education Committee's Report on eight years of technical education and continuation schools (No. 1576), 1912, pp. 63–66.

The original conception of the aims and scope of work in these Trade Schools was probably influenced by the French *écoles des métiers*.

type contemplated in Section 42 of the Regulations for Evening Schools, etc., less urgent than would otherwise have been the case. Nevertheless, it soon became apparent that there was a distinct demand for whole-time Day Technical Classes. The movement for the establishment of " Junior Technical Schools ", as these full-time classes for ex-Elementary School pupils came to be called, was especially rapid in London, partly on account of the concentration of certain trades and industries within a limited area and partly on account of the decay of apprenticeship and the very limited opportunities afforded by employers for the training of young persons wishing to enter skilled occupations. In view of the marked increase in the number of full-time Day Technical Classes, the Board decided in 1913 to recognise these schools under a special set of Regulations and to pay grants to them " to a degree more commensurate to their importance ". After prolonged consultations with representatives of local education authorities and teachers in technical institutions, the Board drew up Regulations which came into operation as from 1 August, 1913, under which Junior Technical Schools might be detached for administrative purposes from the other somewhat miscellaneous full-time or part-time courses aided as Day Technical Classes under Article 42 of the Regulations and encouraged and strengthened by means of increased grants. These schools were definitely not intended to provide courses furnishing a preparation for the professions and Universities, or for higher full-time technical work, or commercial life. They were designed to prepare their pupils either for artisan or other industrial occupations or for domestic employment. Under the Regulations the minimum age for admission is 13+, and the courses, which ordinarily last for 2 or 3 years, are normally planned to provide for pupils who enter them from Public Elementary Schools at the age of 13 or 14. The original Regulations for Junior Technical Schools issued in 1913 stated that the school hours in such schools were to cover not less than 30 hours a week, and that no pupil was to be admitted except upon a certificate given by the parent or guardian that he was intended to enter into an employment for which the school provided a preparation. Practical work would be required in all suitable subjects, and the staff must contain a reasonable proportion of members with practical trade experience of the occupations for which the individual school prepared. Wherever possible, an Advisory Committee should be appointed, containing representatives of employers and employed in these occupations.

The existing Junior Technical Schools fall into two quite distinct types, differing not only in their curricula, but in their relation to industry:—

(i) The Trade School[1], which provides training recognised by the trade or occupation concerned as at least equivalent to that given in the corresponding period of normal apprenticeship. In other words, these schools substitute for part of the apprenticeship in the workshop a training given in the school. Though these Schools pay adequate attention to the general subjects of the curriculum, the proportion of time devoted to craft work is greater than that assigned to it in the schools described under (ii) below and frequently amounts to 50 per cent. or more of the total time. Unlike the pre-apprenticeship schools described in (ii) below, the Trade Schools prepare their pupils for a defined occupation, such as printing, silversmiths' work, book-binding, musical instrument making, women's needle-trades, hair-dressing. Most of these Schools are situated in London, where they are now known officially as Junior Technical Schools. Outside the London area they are still usually described as Trade Schools.

(ii) The pre-apprenticeship school, which receives pupils between the ages of 13 and 14 who have decided that they will probably enter a particular industry or group of industries, but not necessarily a specified trade within the industry, and who are being prepared to enter it about the age of 16. Most of these schools prepare boys for the engineering and building industries.

Akin to the schools of type (ii) are the Junior Technical Schools designed to prepare girls for home management, which give general preparation for home management rather than in any particular section or aspect of it. There are also a number of Junior Technical Schools akin in aim to type (ii)

[1] The expression "Trade School" has been in use since the middle of the last century to describe a School in which special attention was devoted to various branches of practical and experimental science with reference to their practical applications. See, for instance, the description of the Bristol Trade School (1866) in the footnote on page 32 of Chapter I. The Scheme prepared by the Endowed Schools Commission for Wakefield Grammar School dated 13th May, 1875, contains in Part V provisions relating to the Technical or Trade School of the Foundation, in which the subjects of secular instruction were to be, in addition to the 3 R's, "English, Geography, Mathematics, Drawing (with special reference to Mechanics and Engineering), and such other branches of practical and experimental science as the Governors may direct".

known as Junior Commercial Schools, which prepare boys and girls for entry to commercial life.

Trade Schools preparing boys or girls for one defined occupation are essentially vocational schools. On the other hand, Junior Technical Schools which prepare boys for the engineering and building industries, Junior Technical Schools which prepare girls for home management, and Junior Commercial Schools which prepare boys and girls for clerical occupations and the office arts, might well be described as quasi-vocational, since they prepare not for one specific trade or occupation, but for groups of related occupations. Nevertheless, since both types of school have in common the aim of preparing boys and girls between the ages of 13 and 16 for efficient work in industry and commerce, they have hitherto been classed for administrative purposes as ' Junior Technical Schools '. Though all these schools have a distinct vocational tendency, their curricula are not confined to crafts and technical subjects. They devote considerable attention to the social and physical welfare of their pupils, though many of them are deficient in provision for physical education. They include the study of subjects such as English, History and Geography, which were begun in the schools from which their pupils are drawn, and which are (i) directly useful in an occupation; (ii) necessary to elucidate its place in the structure of human life and society; (iii) necessary to enable an individual to take his place as a citizen of a democracy. Some schools include in their curriculum a modern language. In Junior Technical Schools it is possible to integrate the several subjects of the curriculum so that each makes a definite contribution towards the fulfilment of the primary aim of these schools, which is to train youths and girls for entering industrial and commercial occupations. The freedom of these schools from the requirements of external examinations facilitates this treatment of the curriculum and renders it possible for each school to frame its course in the light of local requirements. In consequence, though the names of the subjects in the curricula are the same as those in other types of school, the content and the treatment may be very different. In general the instruction is less academic, since it is possible to relate it to the known aims and future circumstances of the pupils.

Up to the present these schools have deliberately aimed at not turning out more pupils than can be absorbed by the specific local industry or group of industries. It is evident

that both the Junior Technical Schools proper and the Trade Schools have a curriculum differing in content and in outlook from the curricula of other types of post-primary school.

Note.—We do not in this chapter attempt to give any detailed account of the history of the development of Modern (Central and Senior) Schools for pupils between the ages of 11+ and 14+ or 15+, as we have dealt with these schools at considerable length in our Report on *The Education of the Adolescent* (1926). It is evident, however, that the curricula which have been and are being evolved in Modern (Central and Senior) Schools for pupils above the age of 11+, in accordance with the suggestions in our Report on *The Education of the Adolescent*, have had considerable influence in modifying the traditional ideas about the academic curriculum of the Grammar Schools.

We have also refrained in this chapter from attempting to give any account, however brief, of the development of Sixth Form work in Grammar Schools since 1904, and of the influence on such work of the Second School Examination and the Board's Regulations for Advanced Courses, since in this Report we are primarily concerned with the curriculum for pupils up to the age of 16+ in the middle part of the Grammar School.

In Chapter XI[1] we give a number of conclusions based on this chapter.

[1] See pp. 349–53.

CHAPTER II

THE PRESENT POSITION IN RESPECT OF PROVISION FOR SECONDARY AND JUNIOR TECHNICAL EDUCATION IN ENGLAND AND WALES

In the present chapter we have used statistics prepared by the Board of Education. We have accordingly throughout the chapter used the term Secondary School as meaning a school recognised either for grant under the Regulations for Secondary Schools or as efficient under Rules 16 issued by the Board of Education. Elsewhere in this Report, as we have explained on page XVIII of the Introduction, we have employed the term Grammar School for this type of school.

The existing provision for the education of children over the age of 11

1. In taking account of the many and varied aspects in the present situation which bear on our Reference we begin by quoting the following table (from page 89 of *Education in* 1937, *being the Report of the Board of Education and the statistics of public education in England and Wales*), which shows the present distribution of children in the age group 11+ to 16+ among the various types of post-primary school.

In this table the pupils with whom we are primarily concerned are those in grant-aided Secondary Schools and in Junior Technical Schools. To obtain a useful picture of present conditions it will be necessary to refer to some of the particulars, especially to statistical details, covering the period between the educational years 1924–5 and 1936–7—a period of 13 years. It should be remembered, however, that further developments continue.

The 10 years from the outbreak of the War to 1924 were marked by a growing demand for secondary education, which resulted in an increase of over 80 per cent. in the numbers of pupils attending Secondary Schools. This increase has continued steadily, though at a lower rate, since then.

TABLE 1

Number of pupils between the ages of 11 *and* 17 *on the registers of certain types of school, with the corresponding population*

Age.	31 March, 1937.						Total 31 March 1936.	Estimated total child population of these age groups 31 March, 1937.
	Elementary.	Grant-aided Secondary.	Junior Technical etc.	Pupil-Teachers in Centres.	Rural Pupil-Teachers.	Total.		
1.	2.	3.	4.	5.	6.	7.	8.	9.
10–11	566,964	12,165				579,129	595,609	613,000
11–12	552,388	44,536				596,924	604,878	629,000
12–13	522,304	80,154*	1,135			603,593	624,949	641,000
13–14	530,122	83,902	4,886			618,910	632,957	658,000
14–15	158,303	79,390	11,401		26	249,120	267,923	681,000
15–16	19,743	73,333	9,037		71	102,184	108,177	728,000
16–17	2,393	47,718	2,972	12	90	53,185	51,845	770,000
Total (11–17)	1,785,253	409,033	29,431	12	187	2,223,916	2,290,729	4,107,000

* It should be noted that in Wales the numbers of children admitted at the age of 12 to Secondary Schools slightly exceed the numbers of those admitted at the age of 11.

Classification of the existing Secondary (Grammar) Schools

2. From the point of view of administration the Secondary (Grammar) Schools in England and Wales fall into five classes.

(i) Schools in receipt of no public money;

(ii) Schools in receipt of a grant from the Board of Education but no grant from the local education authority(1);

(iii) Schools in receipt of grants from both the Board of Education and the local education authority;

(iv) Schools in receipt of a "deficiency grant" from the local education authority, receiving no direct grant from the Board of Education;

(v) Schools wholly maintained by the local education authority.

In no case, however, do these purely financial distinctions correspond to any more general differentiation between schools. At no point can a sharp line be drawn.

The existing Secondary (Grammar) Schools may also be classified from another point of view, traditional and sociological. It is possible broadly to distinguish four types but the lines of division here are not quite rigid, and distinctions should not be pressed too far.

(i) Since 1902 a large number of County and Municipal Secondary Schools have been established which receive the great majority of their pupils from the public elementary schools. The education given in them is thus closely linked with that given in the public elementary schools and most of the pupils enter these schools at the same age having received similar preliminary training. When these schools were first established in 1902, the age of transference from the public elementary school to the Secondary School was often as high as 13. Normally pupils from public elementary schools in England are now transferred at the age of 11+; in Wales, the practice still prevails of transferring most at a later age, generally about 12. Formerly the great majority of pupils in these schools left at or

(1) Aid by a local education authority to pupils, whether by way of fees, maintenance allowances or travelling expenses, does not count as grant to the school.

before the age of 16, but now an increasing number remain to the age of 17 or 18, and appropriate work beyond the School Certificate stage is provided for them.

(ii) The second class may be grouped as regards boys under the heading of non-local schools; these are mainly boarding schools. A large number of the pupils attending such schools receive their earlier education either in Junior Departments or in separate Preparatory Schools, in which the courses of work are deliberately planned with the object of making them a suitable training in preparation for the Public Schools. Many of these Public Schools, however, also contain a considerable number of boys who have entered them direct from public elementary schools. For girls the place of such schools is taken by the High Schools and the girls' Endowed Schools and to some extent by a number of large boarding schools of a semi-Public character. Many girls' schools of this type have Junior Departments or Preparatory Schools, a large proportion of the pupils entering them having been educated either by governesses or in private schools of varying degrees of efficiency. Furthermore a certain proportion of the pupils in girls' day schools have come from public elementary schools, but in general there is much greater variety in the previous education of pupils attending these schools than is found in the previous education of those who enter the County and Municipal Secondary Schools.

(iii) Day Secondary Schools for boys and girls which are aided but not maintained by local education authorities. There is a large group of Grammar Schools for boys, many of them as old as the ancient Public Schools, and of High Schools for girls established by Corporations such as the Girls' Public Day Schools Trust, most of which are aided but not maintained by local education authorities. Owing largely to their character as local schools, this group has been more responsive to public demands, and the modernisation of the curriculum b[illegible]n in these schools somewhat earlier than in the Public Schools. From the scholastic point of view

the best of these schools compete on equal terms with the Public Schools, and while they are traditionally connected with the two ancient Universities, many of them have also established close relations with the new Universities. So far as conditions permit, the ideals of the corporate life of the Public Schools are maintained in these schools. Fees are charged, but as a large number of these schools are aided by local education authorities or receive 'direct grant' from the Board of Education, Special Places are provided for pupils from public elementary schools.

(iv) There is a large number of private schools of a Secondary or quasi-Secondary character which have not been inspected by the Board of Education or by the local education authority.

The development of Secondary Schools from 1914 *to* 1937

3. The following table shows the developments that have taken place during the period 1914–37 inclusive. For the purpose of this table all Secondary Schools which have been recognised by the Board of Education are included for this period, a distinction being made between those schools which are recognised for grant under the Regulations for Secondary Schools, and those which are recognised as efficient under Rules 16, but are not grant-aided. As on 31 March, 1937, the former consisted of 765 Council Schools, i.e., schools for which

TABLE 2

Secondary Schools recognised by the Board of Education

	1 Oct. 1913.*	1 Oct. 1921.*	1 Oct. 1925.	1 Oct. 1928.	1 Oct. 1932.	1 Oct. 1936.	1 Oct. 1937.
Grant List—							
Number of schools ..	1,027	1,249	1,301	1,338	1,378	1,393	1,397
Number of pupils ..	187,647	362,025	367,564	393,185	449,717	481,767	484,676
Average size of school	182	290	283	294	326	346	347
Efficient List—							
Number of schools (excluding Preparatory Schools)	121	233	312	353	378	394	397
Number of pupils ..	22,546	46,610	57,260	63,900	65,199	72,848	73,421
Average size of school	186	191	184	181	172	185	185

*Although the figures for the educational years 1913–14 and 1921–22 are not all for 1 October, they may be regarded as comparable with the 1 October figures of other years.

local authorities are responsible (this group includes not only schools provided by local authorities singly or jointly, but also Endowed Schools for which a Council has assumed responsibility and become trustee of the Endowment Funds or of the School Site Foundation); 393 schools aided by local education authorities and not in receipt of direct grant from the Board (Indirect Grant Schools); and 235 schools in receipt of direct grant from the Board (some of these schools receive also aid from local education authorities).

The above figures illustrate the actual growth in numbers of both schools and pupils and the concurrent increase in the average size of the grant-aided schools. But though the average size of these schools has increased, there inevitably remain many quite small schools as is shown by the following table :—

TABLE 3

Grant-aided Secondary Schools on 31 March, 1937, by Size (No. of Pupils)

1	Under 100. 2	100 and under 150. 3	150 and under 200. 4	200 and under 250. 5	250 and under 300. 6	300 and under 400. 7	400 and under 500. 8	500 and under 600. 9	600 and over. 10	Total. 11
Total ..	32	107	146	153	195	308	262	130	60	1,393*
England ..	29	96	129	135	161	270	232	128	60	1,240
Wales ..	3	11	17	18	34	38	30	2	—	153

* Five new Secondary Schools were recognised for grant between 31 March and 1 October, 1937. In addition one school so recognised was closed.

In this table 633 schools—nearly half the total on the Grant List—are schools with less than 300 pupils and 285 are schools with less than 200.

The increase in the number of pupils in Secondary Schools from 1925 *to* 1937

4. A more illuminating picture of the increase in the number of pupils in grant-aided Secondary Schools during the period 1925–37 may be obtained by comparing (*a*) the number of children in those schools with the total population of the country and (*b*) the number of children admitted to grant-aided Secondary Schools with the number of public elementary school children between the ages of 10 and 11 on 31 March in the preceding year together with the number of these admissions coming from public elementary schools similarly compared.

TABLE 4

Proportionate figures for pupils in, and for those admitted to, grant-aided Secondary Schools

	1925.	1928.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
Number of children in grant-aided Secondary Schools per 1,000 of the population (October figures)	9·7	10·0	11·0	11·2	11·3	11·5	11·8	11·8	11·8
Number of children admitted to grant-aided Secondary Schools expressed as a percentage of the number of public elementary school children between the ages of 10 and 11 on 31 March in the preceding year ..	13·0	15·7*	13·6	13·5	13·8	15·0	15·6	16·0	16·8
Number of these admissions, similarly expressed, coming from public elementary schools	8·5	11·3*	10·3	10·5	10·8	11·9	12·6	13·0	13·7

* The high percentages in 1928 are due to the very small 10–11 group on 31 March, 1927.

Although the figures given in the upper line do not appear to indicate a continuous increase since 1932 in the number of pupils in grant-aided Secondary Schools there has in fact been a regular increase each year. The proportion, however, has not varied in the same way owing to variations in the yearly increase in the total population of the country.

In the middle line the percentage rise in the total number of pupils annually admitted since 1932 to grant-aided Secondary Schools is due, almost entirely, to the continuous decline in the number of pupils in successive 10–11 age-groups in public elementary schools. The annual total of admissions, except for the year 1937, has been less than in 1932 although an increase, in some years, in the number of admissions from public elementary schools has partly counterbalanced the fall in the number of entrants from other sources. The important fact brought out by the rising percentages in total admissions is not, therefore, that increasing numbers have been admitted since 1932 but that each year a larger proportion of the children in public elementary schools, including in some years an increase in the number, has been admitted to Secondary Schools. All the foregoing facts are strikingly evident when we compare the numbers which the proportionate figures represent.

TABLE 5

Grant-aided Secondary Schools

Year.	Total number of Pupils in the Schools.		Admissions.			
	1 October figures.	Per 1,000 of the total population as on 30 June.	Total year ended 31 July.	Percentage as defined in Table 4.	From Public Elementary Schools.	Percentage as defined in Table 4.
1931 ..	438,576	11·0	89,682	13·6	68,230	10·3
1932 ..	449,717	11·2	96,342	13·5	75,154	10·5
1933 ..	457,594	11·3	92,652	13·8	72,680	10·8
1934 ..	467,217	11·5	92,490	15·0	73,755	11·9
1935 ..	478,085	11·8	94,546	15·6	76,383	12·6
1936 ..	481,767	11·8	93,850	16·0	75,975	13·0
1937 ..	484,676	11·8	97,115	16·8	78,912	13·7

Incidentally two facts—the regular increase since 1932 in the total number of pupils in attendance at grant-aided Secondary Schools, and the absence of any material increase in the annual total of admissions—indicate that there has been a steady lengthening of school life.

Previous Education of Secondary School Children: Free Places and Special Places; Examinations for the award of Free or Special Places

5. In 1924 approximately 67·6 per cent. of the pupils attending grant-aided Secondary Schools had received their previous education in public elementary schools, and by 31 March, 1932, this percentage had risen to 73·1. In the same period the percentage of free pupils increased from 38·4 to 48·4. These increases were largely due to a modification of the Regulations in 1930, under which the normal percentage of Free Places which might be awarded at the discretion of the school authorities was raised from 40 to 50.

As from 1933 new regulations operated which introduced substantial changes. These changes were designed to ensure that scholarships should be awarded to the pupils adjudged on examination to be the most capable of profiting from the education provided, and that none of those successful candidates should be debarred by poverty from entering the

schools, while parents who could afford it should contribute at least a portion of the cost of their children's education. These new regulations were applied to all grant-aided schools other than those in receipt of direct grant, the latter type of school being free to continue under the regulations previously in force except in so far as the awards were met out of the funds of local education authorities. These Special Places were substituted for Free Places.

The normal maximum percentage of Special Places, which hitherto could only be exceeded by permission of the Board, was removed as from 1 August, 1936. The number of free pupils is now supplemented by the number of pupils admitted to Special Places by the payment of part fees.(1) In addition the full standard fee is often reduced for post-Certificate pupils.

The following table shows the 1,393 grant-aided Secondary Schools, on 31 March 1937, classified according to the Percentage of Special Places or Free Places at the beginning of the school year 1936–7.

TABLE 6

Schools classified according to Percentage of Special Places or Free Places

1	Under 25 per cent. 2	25 per cent. and under 50 per cent. 3	50 per cent. and under 75 per cent. 4	75 per cent. and under 100 per cent. 5	100 per cent. 6	Total. 7
Total	140	468	393	93	299	1,393*
England ..	140	455	362	74	209	1,240
Wales	—	13	31	19	90	153

* See footnote to Table 3.

Examinations for the award of Free or Special Places.—In different parts of the country the examinations for the award of Special Places assume very different forms, not only as regards organisation and administration, but also as regards the type of test employed. The Board published in 1928 a pamphlet on this subject (*Memorandum on Examinations for Scholarships and Free Places in Secondary Schools*, Educational Pamphlet No. 63). A Supplementary Memorandum to this pamphlet, based on further investigations, was published in July, 1936.

Length of school life

6. It is not possible to produce any figures showing the length of school life in recent years which are strictly comparable

(1) On 31 March 1937 there were 77·0 per cent. ex-public elementary school, 46·0 per cent. free, and 7·4 per cent. partially free.

with those relating to the years prior to 1928, since up to that time it was the Board's practice to exclude periods spent at Secondary Schools before the age of 12, and to treat a pupil who transferred from one Secondary School to another as having completed his school life at the first school and started a fresh school life at the second. From the year 1928–9 onwards the average length of school life has been calculated so as to include the whole time spent by pupils from the age of 11 upwards in the grant-aided Secondary School system and not to regard a transfer within that system as effecting a break in school life.

But in this matter a picture of the pupils in Secondary Schools distributed according to ages in selected years of the period 1925–37 is perhaps more useful than a mere statement on the average length of school life. The following table shows the ratio of pupils of various ages from 16 upwards to those in the lower age-groups.

TABLE 7

Number of pupils in grant-aided Secondary Schools

	1.10.1925	1.10.1928	1.10.1931*	1.10.1932*	1.10.1936	1.10.1937
Aged 11–16 ..	290,010	314,277	339,144	351,236	387,976	389,336
Aged 15–16 ..	49,194	52,534	59,750	56,355	68,203	64,409
Aged 16–17 ..	24,582	24,205	30,955	32,350	33,562	30,648
As percentage of 15–16 age-group previous year ..	51·5	48·8	54·9	54·1	45·4	44·9
Aged 17–18 ..	10,498	11,361	14,675*	15,398*	9,952	13,444
As percentage of 16–17 age-group previous year ..	42·2	46·9	50·4	49·7	41·0	40·1
Aged 18 and over ..	2,451	2,830	3,150*	3,999*	2,410	1,990
Aged 16 and over	37,531	38,396	48,780	51,747	45,924	46,082
As percentage of 11–16 age-group current year	12·9	12·2	14·4	14·7	11·8	11·8

* These were years in which older pupils generally had exceptional difficulty in finding employment.

It will be seen from Table 7 that the pupils of 16 years and over amount to nearly one-eighth of the number of pupils between 11 and 16, or one-ninth of the number of children over 11 in the school as a whole, and what is more striking is the increase in the size of the 16+ age group since 1925 although the proportion of pupils remaining to form this group is not so high as in that year and there has been some

falling away recently in actual numbers. On the other hand, in 1937, 23,965—about 27·6 per cent.—left between the ages of 14 and 16, the number of these paying fees being about 4·8 per cent. greater than the number paying no fees.

The following tables are also of interest.

TABLE 8

Grant-aided Secondary Schools

Number of pupils who had remained for 6 and 7 years, expressed as a percentage of the number of pupils admitted, aged 11 years and over, 6 and 7 years earlier.

School Year ended 31 July	ENGLAND		WALES	
	6 years	7 years	6 years	7 years
	%	%	%	%
1932	15·3	10·8	13·3	7·0
1933	16·9	10·8	13·8	8·6
1934	16·9	10·6	14·1	8·8
1935	14·6	10·4	13·7	9·2
1936	15·0	9·4	13·0	8·5
1937	15·0	8·9	13·2	7·3

In Wales the majority of pupils are admitted at 12+ years of age as compared with 11+ years of age in England.

TABLE 9

ENGLAND AND WALES

Pupils in grant-aided Secondary Schools.

1	Pupils of 16 and over 2	Pupils pursuing a course beyond the School Certificate stage* 3	Col. 3 as a percentage of Col. 2 4
			%
1 October 1934 ..	41,982	34,170	81·4
1 October 1935 ..	38,519	36,849	96·6*
1 October 1936 ..	45,924	39,597	86·2
1 October 1937 ..	46,082	40,589	88·1

* Column 3 includes a certain number of pupils under 16 years of age. This accounts for the high percentage in 1935 by the inclusion of a large number of pupils of 15 to 16 born during the peak period.

Curriculum

7. The course of work in Secondary Schools is divided into two stages, the termination of each being marked by an external public examination. In this section we deal only with the first stage, which leads up to the School Certificate Examination and occupies four or five years of the pupil's school career.

The following Tables 10, 11 and 12 are taken from the Board's Report *Education in* 1937. In Table 10 similar statistics from the Report for the school year 1925–6 are added for purposes of comparison. Tables 11 and 12 give comparisons between the number of pupils in grant-aided Secondary Schools taking the First and Second Examinations respectively.

Table 10 brings out clearly the slight differences that have taken place in the subjects chosen by the candidates for examination since 1926. Of all the subjects in which over 10 per cent. of the candidates offer themselves for examination only three show any striking change. Religious Knowledge shows a drop in the percentage of entrants from 32·2 to 17·7, Botany a drop from 25·4 per cent. to 11·0 per cent., and Biology a rise from 0·2 per cent. to 19·6 per cent.

This table also confirms the statements of the Investigators in their Report on the School Certificate Examination for the summer of 1931.(1) They give lists to show the order of preference—or, as they put it, "the relative popularity"—among the various subjects as shown by the percentage of pupils taking them for examination. English, French, Mathematics, History and Geography are easily first in that order: but Science would probably come fourth were it not for the fact that the science subjects are entered separately. If the total percentage of entrants in 1926 be compared with the total percentage in 1937 it will be seen that the numbers taking Science have increased. In no other major subject has this taken place.

(1) *The School Certificate Examination, being the Report of the Panel of Investigators appointed by the Secondary School Examinations Council to enquire into the eight approved School Certificate Examinations held in the summer of* 1931. (1932.)

TABLE 10

First Examination. Total number of Entries in the principal subjects from all types of school.

A comparison

Subject.	Number of entries.		Percentage of entrants offering the subject.	
	1926.	1937.	1926.	1937.
			%	%
English	54,360	78,071	100	99·0
History	48,084	63,397	89·8	82·0
Geography	37,043	53,351	69·2	69·0
Religious Knowledge	17,272	13,700	32·2	17·7
Economics	352	350	0·2	0·5
Latin	22,127	29,641	41·3	38·4
Greek	1,999	2,201	3·7	2·8
French	52,231	73,367	97·5	94·9
German	3,485	9,425	6·5	12·2
Spanish	556	1,312	1·0	1·7
Welsh	1,950	2,899	3·6	3·8
Mathematics	50,956	71,124	95·1	92·0
Additional Mathematics	4,311	3,906	5·1	5·1
Botany	13,627	8,487	25·4	11·0
Chemistry	21,527	27,246	40·2	35·3
Physics	13,255	20,826	24·7	26·9
Physics-with-Chemistry	3,042	7,956	5·7	10·3
General Science	1,340	4,779	2·5	6·2
Mechanics	2,138	1,660	4·0	2·1
Heat, Light and Sound	2,980	2,785	5·6	3·6
Electricity and Magnetism	1,729	2,724	3·2	3·5
Biology	86	15,119	0·2	19·6
Domestic Science or Hygiene	—	434	—	0·6
Music	607	1,543	1·1	2·0
Art	23,739	29,552	44·3	38·2
Handicraft	—	2,607	—	3·4
Domestic Subjects	—	4,468	—	5·8*
Commercial Subjects	—	1,443	—	1·9
Technical Drawing	—	448	—	0·6

1937.—In addition, 62 (32) candidates offered Ancient History, 13 (5) Logic, 215 (195) Italian, 3 (2) Russian, 2 (2) Hebrew, 6 (2) Irish, 33 (10) Zoology, 115 (69) Agricultural Science, 19 (18) Geology, 9 (4) Heat and its Applications, 97 (54) Mechanical Engineering, 63 (36) Mechanical Science, 4 (4) Elementary Surveying. The figures in brackets denote the number of passes with credit in the subject.

1926.—There were then included: Italian, Dutch, Russian, Applied Science and Agricultural Science; but the subjects above to which no entry is made for that year were not included.

* This subject is taken by girls only. A conjectural percentage based on girl entrants only would be about 12.

The following table shows the number of pupils in grant-aided Secondary Schools who sat for the School Certificate Examination in certain years during the period 1925–37.

TABLE 11

First School Examination (School Certificate)

	Entered for the Examination.	
	Boys.	Girls.
1924–5	21,962	19,485
1925–6	23,488	19,634
1928–9	27,811	20,344
1931–2	33,618	24,063
1934–5	34,776	23,572
1935–6	37,779	27,050
1936–7	37,221	26,784

It is important to note, however, the proportion of children leaving at ages over 14 who have not sat for the School Certificate. The percentage of such leavers would seem to be about 40 per cent., the figures for 1936–7, for example, being 36·6 per cent. boys and 44·4 per cent. girls.

Advanced Work and Second School Examination

8. The number of pupils who remain at school after taking the School Certificate in order to pursue a more specialised course is slowly but steadily increasing as shown in Table 9. Some of these pupils spend one further year only at school, but an increasing proportion remain for two years with a view to taking one or other of the Higher School Certificate Examinations, the Intermediate Examinations of some University, or an examination for an open scholarship.

The following statistics show the numbers of pupils in grant-aided Secondary Schools who have been entered for the Second School Examinations.

TABLE 12

Second School Examinations (Higher Certificate)

Second Examination.	Entered for the Examination.	
	Boys.	Girls.
1924–5	3,383	2,411
1925–6	3,828	2,552
1928–9	4,795	2,859
1931–2	6,954	3,771
1934–5	6,326	3,485
1935–6	6,214	3,284
1936–7	6,652	3,405

After-Careers

9. Table 13 below shows the distribution of occupations among pupils who, after reaching the age of 14, left grant-aided schools in 1925–6, 1931–2, 1934–5, 1935–6 and 1936–7. Table 14 shows the numbers of pupils entering the Universities or University Training Departments direct from grant-aided Secondary Schools during the years 1931–2 to 1936–7. It is somewhat difficult to make a generalised statement, which shall be accurate over a series of years, about the particular careers which pupils from Secondary Schools take up. The fluctuations in the openings which different forms of occupation offer, obviously affect the numbers entering. Nevertheless certain features clearly emerge from the figures.

It will be seen that what are popularly called the black-coated occupations still absorb the great majority of pupils—both boys and girls—from Secondary Schools. Between 60 per cent. and 70 per cent. enter some institution for higher education, become teachers, or take up a professional, commercial or clerical occupation, and of this 60 per cent. to 70 per cent. over two-thirds enter one or other of the last three categories. The 1936–7 figures, however, need explanation in this connexion. A different classification has now been adopted and a number of occupations which, in previous tables, were placed in the industrial and manual group have now been transferred to the commercial and clerical.

The most striking change is among the girls, the proportion remaining at home being less than half those doing so in 1925, and the proportion taking up clerical work being about 50 per cent higher.

TABLE 13

After-careers. Pupils who left after 14 years of age.

	1925–6.			1932–3.			1934–5.			1935–6.			1936–7.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
1. Total No. of Pupils	38,184	32,026	68,210	40,620	35,057	75,677	39,643	33,943	73,586	45,904	38,623	84,527	46,809	39,095	85,904
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
2. Entered Universities or U.T.Ds. ..	5·9	4·4	5·2	7·4	4·0	5·8	6·5	3·7	5·2	5·4	2·9	4·2	5·3	2·9	4·2
3. Entered other Institutions of Higher Education (except T.Cs) ..	6·2	14·2	9·9	5·4	12·9	8·9	6·1	15·2	10·3	5·8	17·9	11·3	5·6	17·4	10·9
4. Became P.Ts., S.T., U.Ts. or Supplementary Teachers or entered T.Cs. (other than Colleges for Domestic Subjects)* ..	4·1	13·8	8·6	3·5	11·3	7·2	2·3	9·4	5·6	1·8	7·6	4·4	1·6	7·4	4·2
5. Entered a Professional, Commercial or Clerical Occupation ..	47·5	30·2	39·5	43·1	36·6	40·0	44·3	41·7	43·1	46·1	43·9	45·1	54·4	46·5	50·8
6. Entered an Industrial or Manual Occupation ..	16·3	2·8	9·9	17·1	5·6	11·7	24·2	5·9	15·7	22·9	4·7	14·6	16·4	4·6	10·8
7. Entered an Agricultural or Rural Occupation ..	4·3	0·6	2·6	3·6	0·7	2·2	2·9	0·4	1·7	2·8	0·6	1·8	2·5	0·5	1·6
8. Remained at home	0·8	20·6	10·1	0·2	21·1	9·9	0·2	16·3	7·7	0·2	10·0	4·7	0·1	8·9	4·1
9. Went abroad, ill or died	3·6	5·3	4·4	2·1	4·2	3·1	2·1	4·3	3·1	1·7	3·4	2·5	1·6	3·5	2·5
10. Unknown or unclassified.. ..	11·3	8·1	9·8	17·6	3·6	11·2	11·4	3·1	7·6	13·3	9·0	11·4	12·5	8·9	10·9

* In the year 1925–6 leavers who entered Colleges for Domestic Subjects are included under Head 4.

TABLE 14

Pupils who proceeded *direct* to Universities or University Training Departments from grant-aided Secondary Schools during the years 1931–2 to 1936–7.

Year ended 31 July.	Pupils who entered Universities or U.T.Ds. As a percentage of the total number of Leavers of 16 and over.		Pupils who entered U.T.Ds. only.
	ENGLAND		
	No.	%	
1932 ..	3865	8·1	224
1933 ..	3646	7·2	108
1934 ..	3479	7·3	100
1935 ..	3164	7·1	96
1936 ..	2992	5·6	166
1937 ..	3035	5·4	134
	WALES		
1932 ..	695	13·1	27
1933 ..	743	12·3	10
1934 ..	713	12·0	16
1935 ..	660	10·9	24
1936 ..	586	9·2	39
1937 ..	552	8·1	29

Staff

10. The following table sets out the increase from 1924–5 in the number of teachers, in the proportion who are graduates, and in the proportion who had undergone courses of training for teachers. (The earlier development was dealt with in the Board's Report of 1923–4, p. 32.)

TABLE 15

Teachers in grant-aided Secondary Schools.

Date.	No. of Teachers.			Percentage of Graduates.			Percentage of Trained Teachers (excluding Special Subjects Teachers).		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
31.3.25 ..	9,210	9,859	19,069	78·3	60·2	69·0	46·4	59·6	53·0[1]
31.3.27 ..	9,572	9,682	19,254	79·1	61·5	70·3	46·3	45·0	45·7[1]
31.3.29 ..	10,249	10,265	20,514	82·4	64·7	73·5	48·8	48·1	48·5
31.3.32 ..	11,286	11,007	22,293	84·3	66·7	75·7	52·4	53·5	53·0
31.3.35 ..	12,050	11,375	23,425	86·0	68·6	77·6	55·1	58·4	56·6
31.3.36 ..	12,401	11,602	24,003	86·5	68·9	78·0	56·0	59·9	57·8
31.3.37 ..	12,679	11,772	24,451	86·8	68·8	78·1	57·1	61·2	59·1

[1] The term 'trained' has been used in a more restricted sense from 1927 than previously.

It will be seen that the proportion of graduates and of trained teachers has steadily increased.

The Board conducts annually a number of Short Courses in different subjects for Teachers in Secondary Schools. The courses last for a fortnight and are held for the most part in various University centres. In the past 18 years the total number of Courses organised has been 292. The Board received applications to attend these Courses from 22,985 teachers, of whom 13,128 attended. In addition local education authorities provide a number of courses of varying length.

Junior Technical Schools : Junior Art Departments : Schools of Nautical Training

11. The evolution of the Junior Technical Schools has been described at some length in Chapter I. Their general position in 1936 was reviewed in the Board's Educational Pamphlet No. 111—*A Review of Junior Technical Schools in England*—which followed a systematic survey, by the Inspectorate, of their distribution, organisation and work. We accordingly give here only a brief summary mainly of the statistical facts relating to them.

The schools recognised by the Board of Education under the name "Junior Technical School" fall into the following four classes :—

(i) Those preparing boys to enter certain specific industries or groups of industries without restriction to particular occupations within such industries.

Most of these schools prepare their pupils for the engineering or the building industries, but some of them prepare for the chemical or the mining industries or for the mercantile marine and the fishing industry.

The schools in this class are popularly known as Junior Technical Schools.

(ii) Schools preparing boys and girls to enter specific occupations, such as furniture and cabinet-making, tailoring, printing, silversmiths' work, musical instrument making, women's needle trades, hairdressing, etc.

As might be surmised from the character of the occupations into which their pupils enter, these schools differ from those classified under (i) above in that the

proportion of school time devoted to craft work is greater and frequently amounts to 50 per cent. or more of the total time. These schools, however, pay adequate attention to the other subjects of the curriculum. Practically all these schools are situated in London, where they are now known as 'Junior Technical Schools' though they are still often popularly described as 'Trade Schools.'

(iii) Schools intended to prepare girls for home management. These schools have more in common with the schools classified under (i) above than with those under (ii) because they aim at giving a general preparation for home management rather than a special preparation for any particular department of it. They devote a considerable proportion of school time to domestic crafts and are known as 'Junior Housewifery Schools.'

(iv) Schools preparing boys and girls for entry to commercial life, as book-keepers, cashiers, general clerks, telephone operators, shorthand typists, etc. These schools are generally known as 'Junior Commercial Schools.' In addition there are the Junior Art Departments in Schools of Art, and the Schools of Nautical Training. The numbers of the various types and of their pupils were, in 1937, as follows :—

TABLE 16

	Schools.	Pupils.		
		Boys.	Girls.	Total.
Junior Technical Schools ..	220	19,285	7,228	26,513
Junior Art Departments ..	41	1,344	1,022	2,366
Schools of Nautical Training ..	6	882	—	882
Total	267	21,511	8,250	29,761

17 Junior Technical Schools in Wales with 1,352 Pupils are included in the above figures.

The term school, as used here, implies only a group of pupils organised under a separate head teacher. There may be two or more such schools in a single institution.

About 85 per cent. of the Junior Technical Schools are housed in Technical Colleges and Institutes and have the use of the laboratories, workshops and equipment. Almost all the schools are small; only about 16 per cent. have more than 200 pupils and 54 per cent. have fewer than 100. This is rather to be expected as the schools were originally established to meet the needs of local industries. It was thought necessary, therefore, to ensure, as far as possible, that the number of pupils being trained should not exceed the capacity of the particular trade or trades to absorb them.

Compared with the number of pupils in Secondary Schools the number in attendance at these schools is small—29,761 in the year 1937. It should be noted, however, that since 1925, when there were only 11,954 pupils in these schools, the numbers have more than doubled. For the most part the Junior Technical Schools receive their pupils from public elementary schools at the age of about 13. The number of transfers from Secondary Schools is negligible. Except in a few cases the number of candidates for admission exceeds the number of places offered, and the number of entrants who do not complete the course is very small.

The staffs are highly qualified. About 55 per cent. are graduates, and the great majority of the other teachers, engaged on subjects in which there is no university degree, hold equivalent professional qualifications. A salient feature is the employment of teachers who have had experience in industry and commerce.

CHAPTER III

A BRIEF OUTLINE OF THE MORE SALIENT FEATURES IN THE PHYSICAL AND MENTAL DEVELOPMENT OF CHILDREN BETWEEN THE AGES OF 11+ and 16+

PART I.—THE PHYSICAL DEVELOPMENT OF CHILDREN BETWEEN THE AGES OF 11+ AND 16+

1. There is a large body of traditional doctrine regarding the physical and mental development of boys and girls between the ages of 11 and 16 or 17. These views represent the cumulative experience and observations of successive generations of parents, teachers, inspectors and administrators. Of late years, however, the accuracy and validity of some of these time-honoured notions about children at the adolescent stage have been called in question by scientific investigators, both physiologists and psychologists.

We accordingly regard it as important for the purposes of our present Report to summarise briefly such knowledge as is available regarding certain salient features of the general physical and mental development of children at the adolescent stage. Teachers and parents will appreciate the significance of the inferences that may legitimately be drawn from this brief outline of the basic facts. It is true no doubt that the extent to which teachers may modify their methods to meet the needs of individual children will vary, but the necessity for recognising adequately the general physical and mental characteristics of their pupils during this critical period will justify a careful consideration of such physiological and psychological evidence as is available.

It may on a first view be thought that there is a certain lack of proportion in this chapter as between the space devoted to physical and mental development respectively. It must accordingly be emphasised that the conditions to which reference is made in Part I of this chapter, dealing with physical development between the ages of 11+ and 16+, are those which constitute special problems of the age-group in question. For instance, dental defects are much more prevalent among children of this age-group than postural defects, but dental decay is a problem common to children of all ages, whereas the liability to postural defects tends to

increase with the onset of puberty and adolescence. For similar reasons we do not propose to deal with the problem of suitable nutrition. The rapidly growing boy or girl requires relatively more food than the adult whose growth has ceased, but the question of nutrition in the age-group which we are considering, is substantially the same for all children, whatever their ages, and is a large subject which it would be impossible to discuss adequately in this Report. At the same time we are not unmindful of its importance though the amount of attention which has recently been given to it has perhaps tended to obscure the fact that it is by no means the only essential factor in healthy development. The question of adequate sleep, for example, is always a difficult problem in childhood, but at an age when the boys and girls have begun to imagine that they have practically grown up and are accordingly entitled to follow the practice of adult members of the family, the problem may become one of considerable importance and difficulty.

The Significance of this Stage in the Physical Growth of Boys and Girls from the Educational Point of View

2. We have described briefly in Chapter II[1] of our Report on *Infant and Nursery Schools* (1933) and in Chapter II[2] of our Report on *the Primary School* (1931) the physical development of children from the pre-natal stage up to the age of 11, and have pointed out that the growth of the normal child, at any rate on the physical side, does not proceed at a perfectly uniform rate, but is characterised by fluctuations which some have thought point to an alternation between stages of more rapid development and stages of relative consolidation. The former are commonly described as ' springing-up ' periods, the latter as ' filling-out ' periods. There is some difference of opinion among anatomists and physiologists as to whether there are two or three periods of each type, but there is general agreement that the stage between the age of 11 and that of 16 constitutes a ' springing-up ' period and that the succeeding years constitute the final ' filling-out ' period. It should, however, be clearly understood that such a division does not imply that growth in respect of height occurs only during the ' springing-up '

(1) Based on the Memorandum by Professor H. A. Harris, printed as Appendix II to our Report on *Infant and Nursery Schools* (1933).

(2) Based on the Memorandum by Professor H. A. Harris, printed as Appendix II to our Report on *The Primary School* (1931).

periods, it merely means that there are certain stages during which such growth takes place at an accelerated rate. The comparatively rapid growth between the ages of 11+ and 16+ and the striking physical development and changes in mental attitude that are taking place in each child by reason of the onset of puberty, invest this period with special interest.

As the characteristics of childhood gradually disappear and those of the adult are acquired, the boy or girl for some years displays a constantly changing blend of childlike and adult qualities, and must in consequence be handled with knowledge, understanding and sympathy. In the age-group of children between the ages of 11 and 16 there is a wider range of variation than in the age-group of those between 7 and 11, and it is accordingly important that each boy or girl should be regarded and treated as presenting an individual problem. Physical development is a factor which must be taken into account not less than the chronological or the mental age of the individual child.

In Appendix V to our Report on *Differentiation of Curricula between the Sexes in Secondary Schools* (1923) we printed an interesting memorandum by the late Dr. J. G. Adami on anatomical and physiological differences between the sexes.

We do not propose in this chapter to repeat, even in a condensed form, the considerations summarised in Dr. Adami's memorandum. We only attempt to give a brief account chiefly based on memoranda prepared for us by Professor H. A. Harris and Professor Winifred Cullis of certain aspects of physical development in children between the ages of 11+ and 16+, which are specially significant at this period and which more or less directly affect their education and training. We summarise here very briefly the physiological facts there set forth which appear to point to certain definite conclusions.

Skeletal Growth during Puberty and Adolescence

3. During the whole period of growth each long bone in the human body consists of a shaft and two articular ends separated by an actively growing plate of cartilage. All growth in the length of these bones takes place as the result of proliferation of the cartilage, a portion of which is slowly but steadily converted into calcified cartilage and finally into bone. In this way the shaft increases in length at both ends, but towards the close of adolescence the growth cartilage ceases to develop. On its calcification and replacement by bone the shaft and the ends are closely welded together.

Before growth in length is completed, all the joints are especially susceptible to injury from over-strain, and the bones being as yet unknit, are liable to injuries, deformities and damage to the growth cartilage. Furthermore, the areas of actual growth are liable to disease, in accordance with the well known fact in plant and animal life that the growing tissue is especially sensitive to harmful influences. *For this reason alone, no adolescent, until calcification is completed, should be allowed to do heavy continuous muscular work either in or out of school, particularly if it involves postural fatigue.* The union of the bones described above does not occur at the same time in all the bones. For instance cessation of growth at the elbow occurs at the age of 15 or 16, but at the shoulder growth is not complete till the age of 19. In the same way, the bones of the forearm cease to grow at the elbow about the age of 16, but at the wrist they continue to develop to the age of 18 or 19. It is evident that these characteristics of bone growth in the human organism should be taken into consideration in arranging and planning physical exercises, games, and practical activities (e.g., in workshops and domestic science rooms) for boys and girls in secondary schools.

Great care should be taken to ensure that children do not overtax their strength in the garden, in digging, and wheeling barrows, and at the bench, in planing and sawing. Planing affords a good example of an exercise which requires careful oversight; when benches are of uniform height, small boys may have to adopt a stance in which forcing the planes along causes strain. Some teachers have obviated this by supplying ready planed wood to young pupils; this means that serious exercises in planing have to be postponed to a later stage in the course. Alternatively, a platform might be available for the use of the smaller boys. In the domestic science room there is not the same danger of overstrain from heavy physical operations, but harm may be done to young girls if they spend long periods in unhealthy postures.

The Curves of the Spine: Lordosis

4. During antenatal life the embryo is in a position of general flexion, so that the spine presents one continuous curve.

In the upper part of the back and in the region of the hips this curve persists in some degree throughout life, but with the development of the erect attitude two compensatory curves develop, namely, convex forward curves in the regions

of the neck and of the loins. The curve in the region of the neck is called cervical and that in the region of the loins is known as the lumbar curve; when the latter is grossly exaggerated, the condition is known as lordosis. Extreme degrees of this defect are, however, rare.

Lordosis is often associated with poor development of the muscular system and of the abdominal muscles in particular. Children who are undernourished, often display an increase of the dorsal curve and also an increased lumbar curve with prominent abdomen. Their cervical curve is not well marked and the head in some instances may be in a 'hang-dog' position.

Other forms of Spinal Curvature: Adolescent Kyphosis and Scoliosis

5. From the orthopaedic point of view, one of the main objections to attendance at school is the dominance of 'compulsory sitting'. Unsuitable arrangements for seating play a part in the production of curved or bent back (kyphosis) and the bent and twisted back (scoliosis), which not infrequently occur in children between the ages of 11 and 16. Mild degrees of curved or bent back arising at puberty are transient, but others persist throughout the adolescent period. This postural defect is unsightly, and although an improvement may be effected, it can seldom be completely rectified.

Fatigue plays some part in the production of this condition, the onset of which tends to be insidious rather than sudden.

Scoliosis is a more severe deformity than kyphosis since the lateral curvature of the spine is accompanied by rotation of the *vertebrae* so that one shoulder stands out while the trunk as a whole is lacking in symmetry. Scoliosis is pre-eminently a deformity of puberty and adolescence. These postural defects have their origin to a great extent in a certain lack of tone in the nervous and muscular systems, some of the principal contributory causes being general debility, unduly rapid growth and overwork resulting in fatigue.

Sometimes the mental equipment and nervous system of the individual are not fully equal to the task of supporting an erect attitude, though as a rule this weakness will not give rise to a postural deformity unless it is associated with poor muscular tone. Since fatigue plays such an important part in inducing this maladjustment, *the importance of adequate rest in a suitable position should receive careful*

consideration. The remarkable power of the back muscles and the ease with which they can be developed by appropriate exercises, have perhaps tended to obscure the necessity for making more generous provision for adequate rest in school hours.

Scoliosis both in boys and girls may be induced or aggravated by carrying on the arms heavy satchels and overcoats to and from school; among girls it may also be caused by their having to take charge of younger members of the family, and to perform domestic duties in the home which involve carrying heavy weights on one side of the body. *Parents of girls in secondary schools should not expect of them any undue amount of domestic work in the home.*

The importance of good posture in the various types of work done in school could be illustrated in several ways. It is probable that sufficient importance has not been attached to the maintenance of good posture in writing. If in the earlier years of school life a faulty posture has been adopted it will not be found easy to correct it during the adolescent stage though that is, of course, no excuse for not making an effort to do so. This difficulty of eradicating an established fault should be borne in mind when a new study is begun. If, for example, boys and girls when learning typewriting do not adopt a proper posture from the beginning, serious effects may ensue at a later stage when it becomes necessary to spend several hours at a time in typing. *The risk of adopting permanently an unhygienic posture in typing may be obviated if the work is supervised from the beginning by a skilled teacher, and if appropriate modern equipment is provided for typing as for all class work,* e.g., *adjustable chairs and desks of suitable height.*[1]

Similar considerations apply to the equipment of domestic science rooms, in which stools of variable height, or fitted with adjustable backs and footrests, should be supplied for needlework lessons. In laboratories, too, similar arrangements should be made to meet the needs of pupils of varying heights.

The Ductless (Endocrine) Glands and their influence on growth : the thyroid gland : the pituitary gland

6. There are various types of glandular structures in the human body. There are glands producing secretions, which are conveyed by ducts to the place where their influence is to be exerted. The salivary glands afford a good example;

[1] This has been recognised and suitable desks have been designed.

they produce substances which having passed through the ducts into the mouth assist in the mastication and digestion of food. The glands of the lymphatic system are of a different type. They are concerned in the production of white blood corpuscles and, by acting so to speak as a bacterial filter, they play an important part in the defence of the body against infection. Of another type again are those structures usually described as ductless glands, the best known examples of which are the thyroid and pituitary. Glands of this type produce secretions which are not conveyed to other parts of the body by ducts, but are absorbed by the blood stream circulating through the glands themselves. These secretions are known as *hormones*, and when absorbed into the blood stream they are capable of producing general, and not merely local effects. Some of these *hormones* exercise a potent influence on growth and development.

The thyroid gland situated in the front of the neck affords a good illustration. If in childhood the thyroid *hormone* is not produced in sufficient quantity by this gland, the condition known as cretinism may result. The skeletal growth of the child then almost ceases, and his bones do not increase in length, though they may become thicker. Mental development practically comes to a standstill, so that at the age of 25 or 30 years the person so affected may be a child both in body and mind. If extract of thyroid gland be judiciously administered by the mouth to cretinous patients, a remarkable improvement can be effected. It must not be assumed, however, that under-functioning of other ductless glands can be similarly compensated by oral administration of appropriate glandular extracts. Up to the present such administration in respect of the other ductless glands has been disappointing in its results.

The pituitary gland, situated at the base of the brain, consists of two distinct parts or lobes. The anterior lobe is closely associated with growth, and over-activity on its part produces disorders of growth. Such over-activity during childhood may result in an abnormal increase in the length of the limb bones producing the condition known as gigantism. Under-activity of the anterior lobe may lead to arrested development: children so affected are small, fat and lacking in development of the sexual functions.

The conditions described above are characteristic of extreme over- or under-activity of the thyroid and pituitary glands, and it should not be assumed that in the absence

of these marked features the glands in question are functioning quite normally. For instance, laziness and general sluggishness in a child may be due to a variety of causes, of which under-nutrition and constipation are probably the most common, but in some cases a moderate degree of under-activity of the thyroid gland may be wholly or partly responsible. If in such instances there were noticeable physical signs, such as gross aberrations of growth, it would be apparent that the mental sluggishness might have a physical basis, but as these physical signs are rarely evident, the underlying cause of the laziness may be difficult to identify. Another point worth mentioning is that some of the *hormones* counteract the action of other *hormones*, so that under-activity of one gland may be characterised not so much by symptoms attributable to that gland as by symptoms indicating the apparent over-activity of another gland, which is in fact functioning normally. A number of morbid conditions, both mental and physical, the causes of which are still somewhat obscure, may eventually be shown to be the result of a lack of balance in the endocrine glands.

The Genital System: Puberty and Menstruation

7. The onset of puberty is characterised by well-marked physical and mental changes, most of which are too well-known to require description here. These changes are largely due to the activities of some of the ductless glands. For instance the *testes*, though producing an external secretion, also produce an internal secretion—a *hormone* absorbed into the blood-stream.

The sexual behaviour of a human being reflects one aspect of his or her personality, and there is much to be said for the view that human personality is to a considerable extent determined by the activities of the ductless glands. The profound physical and mental changes which result from removal of these glands, or from defects or disease in them, indicate that the substances which they secrete have a very potent influence on behaviour. Some of the behaviour difficulties which occur in children during the stages of puberty and adolescence, are undoubtedly due to lack of balance in the secretions of the ductless glands. An endeavour should be made to understand these difficulties, and not to treat them as examples of mere naughtiness. It is not for a moment suggested that the individual child should be regarded as free from all responsibility for the consequences of his or

her behaviour, or that actions which are anti-social in character should be condoned as the inevitable result of glandular disturbances. To do so would be to deny or belittle the value of self-control. *The important point to bear in mind is that self-control is comparatively easy for some children, but very difficult for others, and that such differences may have a physical basis, for which the individual child is not wholly responsible.*

As a rule puberty occurs at a somewhat earlier age in girls than in boys. The physical and mental changes which then take place may impose a certain amount of strain on growing boys and girls, and for this reason *special attention should be directed during adolescence towards the provision of a liberal dietary and well-balanced periods for exercise, rest and sleep.*

Under such conditions the life of the healthy boy or girl should proceed unaltered through this period of growth. The results of many investigations show that for both boys and girls a normal and active life is the most practical solution for difficulties associated with puberty.

As regards menstruation, in a well-arranged school curriculum no change should be necessary for the average girl. It is assumed that attention is given to the avoidance of constipation, the provision of baths, and of a special compartment with hot water and an adequate supply of towels for ensuring a scrupulous personal cleanliness at all times. If real pain be experienced, the help and advice of a doctor should be obtained. It is a useful practice also, where the school medical staff (as is usually the case) includes a woman doctor, that she should hold occasional meetings with women teachers and parents for general advice and discussion, and for the purpose of ensuring that all necessary appliances are available.

Acute Rheumatism and its after effects

8. It seems desirable to lay stress on the fact that the age-group which we are considering is a particularly healthy one[1] and that the majority of boys and girls between the ages of 11+ and 16+ give little cause for anxiety as to their health and general physical development. This warning is particularly necessary before referring to acute rheumatism and its after effects. The incidence of these conditions falls

[1] For the years 1921–30 the death-rate for England and Wales at ages 10–15 years was only 1·6 per 1,000—a rate lower than that recorded for any other age-group tabulated by the Registrar-General.

comparatively heavily on the age-group now under consideration, and it has been calculated that in 1934 16 per cent. of all deaths occurring in England and Wales during the 'age-period' 10 to 15 years were due to rheumatic fever or to heart disease arising from it. This percentage was higher than that from any other single cause. Our knowledge of the causation of rheumatic fever is incomplete, but it is important for parents and teachers to realise that so-called 'growing-pains' may in some instances be a manifestation of the disease in a sub-acute form. *Teachers and parents may also play a most helpful part by ensuring compliance with medical advice as to the physical activities which may safely and appropriately be undertaken by a child who has had an attack of rheumatic fever and has then returned to school, possibly with a damaged heart.*

Medical Inspection and Treatment in Grammar Schools

9. So far as medical inspection and treatment for pupils in Grammar Schools are concerned, the powers and duties of local education authorities for higher education are set out in Section 80 (2) of the Education Act, 1921[1], and in Grant Regulations No. 19 (Statutory Rules and Orders, 1925, No. 835). Such Authorities must provide for the medical inspection on certain occasions of children and young persons attending various specified types of institutions for higher education, and may provide for the medical inspection of children and young persons attending other types of institution. They may also make such arrangements as may be sanctioned by the Board of Education for attending to the

[1] Section 80 (2) of the Education Act, 1921, runs:—

"A local education authority for higher education with respect to children and young persons attending—

(i) secondary schools provided by them;

(ii) any school to the governing body of which in pursuance of any scheme made under the Welsh Intermediate Education Act, 1889, any payments are made out of any general fund administered by a local education authority as a governing body under that Act, and any school of which a local education authority are the governing body under that Act;

(iii) continuation schools under their direction and control; and

(iv) such other schools or educational institutions (not being elementary schools) provided by them as the Minister of Health may direct;

shall have the duty to provide for the medical inspection of such children and young persons immediately before, or at the time of, or as soon as possible after, their admission to the school or institution, and on such other occasions as the Minister of Health may direct, and the power to make such arrangements as may be sanctioned by the Minister of Health for attending to the health and physical condition of such children and young persons."

health and physical condition of pupils attending institutions for higher education, and in the exercise of this power a few Authorities offer to all pupils in Grammar Schools the same facilities for treatment as are available for children in public elementary schools. Other Authorities provide for grammar school pupils one or more types of treatment, while other Authorities limit such facilities to pupils who have previously attended public elementary schools.

The fact that some Authorities do not provide any treatment for pupils in Grammar Schools is, in our view, a matter for regret. When the power to provide medical, including dental, treatment for the children in 'secondary' schools was first given by the Education Act of 1918 to the local authorities, treatment of children in the elementary schools was still in an early stage of development. The legislature may well have hesitated to impose the treatment of grammar school pupils as a *duty* before the older and more formidable task of treating the public elementary school children had been well advanced. During the past 20 years, however, the medical services in the public elementary schools have reached a high state of efficiency; and, in the meantime, the practice of providing treatment for visual, dental, and orthopaedic defects, and for minor ailments, for grammar school children under the same conditions(1) as for those attending the Primary and Modern Schools, has become common.(2) In view of the fact that in most areas more than 80 per cent. of the children in the local Grammar Schools have received their previous education in the public elementary schools, *we are strongly of opinion that this practice should now be made universal.*

We consider that *the work of the medical officers who inspect pupils in Grammar Schools might be made more fruitful in its results if a wider scope of inquiry were undertaken.* To some important matters, such as the proper arrangements for seating the children, and the disposition of periods of work and of intervals for games and for rest in school, we have already referred in this chapter. There are also other matters to which hitherto comparatively little attention seems to have

(1) The conditions are:—(*a*) that there is no obligation to accept the treatment offered by the Authority; (*b*) that the parent should pay such amount not exceeding the cost of the treatment as the Authority may determine, unless the parent is unable, by reason of circumstances other than his own default to pay the amount.

(2) At present over 130 Authorities in England and Wales provide some form of medical treatment for children in Grammar Schools.

been given, e.g., the possible effect on children's health of certain activities out of school hours, such as domestic duties in the home and lengthy journeys to and from school; the provision of midday meals in school; the arrangements for drying and changing clothes and boots. These are all questions which merit special attention from school medical officers in consultation with the teachers.

In particular, there is the question of school dinners. The arrangements made by the local authority for midday meals, planned on a healthy dietary and supplied at a moderate cost, in many of the newly-established Modern Schools, have not only proved to be beneficial to the children physically, but have also provided for them an educational and social experience of great value. The charge for these meals has been within the means of the majority of parents.(1) *We think it desirable that pupils in Grammar Schools which are either maintained or aided by the local authority should also be able to obtain midday meals at a moderate charge, and that in arranging the dietary of such meals the school medical staff should be consulted, as already is the case in some areas.* The charges mentioned in the illustrative footnote do not allow for a margin of profit and are minimum charges. In some schools it may be necessary or desirable to charge more.

(1) The charge to the parents is frequently as low as from 1*s.* to 1*s.* 5*d.* a week for five two-course meals. The experience of one County Authority, where the charge is 1*s.* 5*d.* a week, may be of interest. Dining rooms and kitchens (suitably equipped both for cooking and washing-up, with larder and pantry) are provided in all new Modern Schools; the original equipment also is supplied by the Authority. The salary of the school cook (part-time), together with that of any necessary assistants, is met by the Authority, and the girls attend by turns in small squads to receive additional practice in the preparation and service of meals; there is no separate charge made against the dinner account for fuel. The Authority supplies 1,800 meals a day in 20 Modern Schools. Of the receipts, 75 per cent. is expended on food; and the remainder covers the cost of laundry, and the replacement of equipment, leaving a credit balance of about £800 per annum. If the payment to the cook and her assistants were included, the cost of the meals at present prices (1937) would be 1*s.* 9*d.* a week.

In Grammar Schools there is often a greater variety of food, although possibly not a better balanced food value; many of the children, too, are older than those in the Modern Schools. The Authority in question calculates that the comparable charge in the Grammar Schools would be 2*s.* 3*d.* for a five-day week, including the payment of cook and assistants or 1*s.* 8*d.* excluding this payment; always assuming that the same facilities were made available as in the Modern Schools, and that the arrangements for the meals were subject to the same expert supervision.

We are, of course, aware that in a number of cases it may not be possible to supply dinners at the low prices just quoted, but we believe that the question as to what is possible in different cases requires careful exploration.

If such facilities are to be extended to Grammar Schools generally, adequate dining rooms and labour-saving kitchens will be necessary, and the arrangements for the meals must be placed under expert supervision. The planning of the dining rooms and kitchens should accord so far as possible with the Board of Education's *Suggestions for the Planning of New Buildings for Secondary Schools.*[1]

We are of opinion that tactful and sympathetic inquiry is especially needed in the case of many children who undergo added strain on account of poverty or unfavourable housing conditions, or by reason of undue pressure exercised by ambitious parents. The Head Mistresses of Grammar Schools for girls have repeatedly called attention to breakdowns among pupils drawn from poor homes. Such breakdowns may in all probability be attributed to the combined effects of under-nutrition or unsuitable nutrition, of home duties performed out of school hours, and of the lack of adequate facilities for private study and recreation. It is probable that no single factor is responsible, but the cumulative effect of these unfavourable conditions may easily impose too heavy a strain on the adolescent. The suggestions of the school medical staff may the more readily be acted upon, where close contact with the parents of the pupils is maintained by periodical conferences, parents' days and parents' associations.

We regard the question of physical and mental fatigue in boys and girls between the ages of 11+ *and* 16+ *as one which merits special attention, and we would suggest that medical officers should be encouraged, in consultation with the teachers, to consider and report on any evidence of physical or mental strain occurring in the course of school work (including homework).*[2] Thus will suitable data be provided for research, and appropriate measures may be devised to obviate or relieve physical or mental strain which may be due to games, travel or school work. The results of such inquiries, if they were given at some length in the annual reports of school medical officers, would provide the Board of Education with much valuable information on a subject about which comparatively little seems at present to be known.

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[1] Board of Education: Educational Pamphlet, No. 86, *Suggestions for the Planning of New Buildings for Secondary Schools* (1931).

[2] cf. Recommendation 18 on page 149 of our Report on *Differentiation of Curricula between the Sexes in Secondary Schools.* (1923).

In this context one matter of purely administrative detail is important. *Means should be taken to ensure that, so far as possible, teachers are enabled to refer suspected cases of strain, whether mental or physical, to school medical officers as soon as they are observed, instead of waiting for a routine inspection.*

In recent years a great advance has been made in devising schemes of physical education, and syllabuses of suitable exercises have been published by the Board of Education and other authorities. The Physical Training Colleges for both men and women teachers have assisted to bring this important subject into conformity with the most recent physiological research as it affects the growing boy and girl ; and those Grammar Schools which have appointed suitably qualified teachers from these Training Colleges have shown the improvement which can be expected from a well-constructed scheme of physical education. This is the more encouraging, because much remains to be done which the pooling of experience will help to achieve.

In view of the increased attention which is rightly being devoted to physical education in its various aspects, *we would suggest that systematic inquiries should be undertaken with a view to ascertaining what physical exercises and games are most appropriate for boys and girls at successive stages between the ages of* 11+ *and* 16+ *in schools of different types*[1], *with special reference to the peculiar needs of day pupils who have to travel considerable distances to and from school.*[2]

PART II.—THE MENTAL DEVELOPMENT OF CHILDREN BETWEEN THE AGES OF 11+ AND 16+

NOTE: Part II of this chapter is based on a Memorandum prepared for the Committee by Professor Burt.

The General Character of Adolescence

10. Adolescence, or the transition from the status of childhood to that of an adult, is not a sudden change occurring at a definite period. In primitive communities the initiation ceremony is fixed for a certain age and is completed in a few days or weeks. But among civilised races the real introduction to adult life has become more and more delayed and protracted; and, partly as a result, partly perhaps as a

(1) Thus, for some children the more strenuous games, such as hockey and Rugby football, may be found altogether inappropriate, or unhealthy at certain stages of their growth. The inclusion of certain acrobatic feats as part of a regular course in physical training may be found similarly inadvisable.

(2) cf. Recommendation 19 on page 149 of our Report on *Differentiation of Curricula between the Sexes in Secondary Schools.*

reason of this, the psychological process of adolescence takes place gradually and at a comparatively late age. Nevertheless, the belief that adolescence is an abrupt event with well marked characteristics still survives and, until the beginning of the present century, was accepted by the majority of psychological writers. More recent research, based on the accumulation of first-hand observations, the study of private diaries, and the measurement of mental capacity by means of quantitative tests, has shown that this opinion is erroneous. Puberty is now regarded not as a sudden interruption overtaking all children at the same age, but rather as the culmination of a slow process of growth which has been steadily proceeding from birth at varying rates in different individuals. Furthermore, many of the new characteristics of children at the adolescent stage which were formerly attributed to the effects of some mysterious internal revolution taking place at about the age of 14, are to a great extent induced by external changes in the scholastic, economic and domestic conditions of the individual child. For instance, children attending public elementary schools leave school at the age of 14+ and this is accordingly the age at which they become comparatively independent of their parents and wholly independent of their teachers. Since these external changes occur at varying ages in different social classes, the mental phenomena of adolescence vary even more than the physical.

In part, mental changes, like physical, are doubtless the result of an internal development; but the view adopted as to the character and modifiability of this development will largely depend on the view taken of its ultimate cause. Two explanations have been advanced.

(i) Till about 1910, most psychologists had assumed that a large and miscellaneous group of innate tendencies, dormant during earlier childhood, awaken and rapidly become active at adolescence. These tendencies were regarded as habits inherited from past generations. On the assumption that the development of the individual recapitulates the evolution of the race, it was supposed that the final phase of adolescence must repeat in minuscule the final stages in the history of mankind during the transition from the prehistoric to the civilised era. More detailed knowledge of physical and mental inheritance has, however, made it difficult to reconcile this view with what is known about the mechanism of reproduction; and closer study has shown that the

supposed parallel between the developmental stages of the child and the culture epochs of the past is far less close than previous speculations had assumed.

(ii) The best contemporary opinion now, on the whole, favours a simpler theory. All the apparent modifications of character are regarded as being only the secondary results of the one fundamental change. Directly or indirectly, they are mainly due—at any rate so far as they are produced from within—to the maturing of the sexual glands and organs. Now at last the child achieves what has so long been postponed—sexual maturity. And the glandular changes, which the maturing involves, are now known to be capable of initiating profound changes in physique, intellectual growth, emotion and temperament.

Mental Characteristics

11. Until about 30 years ago it was commonly assumed by psychologists and educationists that the salient feature in mental development was the successive emergence of specific intellectual faculties—sensation, movement, speech, memory, imagination, reasoning—each appearing at fairly definite periods in the child's life. It was held that all these faculties could, and should, be trained as they emerged. Thus the main function of the Infant School was conceived to be the training of the senses and of the power of speech and movement; the task of the primary school for children under the age of 11 was to train their memory and to rely on this for the acquisition of the fundamental subjects. Inasmuch as reason and imagination were not supposed to mature until adolescence, the special function of the Secondary (Grammar) School was to train the rational and imaginative faculties through literature, languages and mathematics. It was supposed that at this stage the mind could best be developed by a basic education of a humanistic type providing a general foundation of 'culture, applicable to every child without regard to individual differences or to subsequent specialisation of careers. The theory that the mind is composed of distinct intellectual faculties each in a separate organ of the brain and maturing at fairly specific periods has now been generally abandoned. Moreover, careful research has thrown a good deal of doubt on the view that the mind as a whole and its several faculties can be trained merely by exercising them. Education rather consists in developing specific habits,

memories, ideas, forms of manual and mental skill, intellectual interests, moral ideals, and a knowledge, not merely of facts and conclusions, but also of methods. Furthermore, the application of mental tests to children at successive years of school life has shown that intellectual growth in general and in its more specific aspects is not spasmodic, but remarkably uniform up to the time that development ceases. Memory and the power to reason steadily improve from a very early age, and mental development in every direction is continuous. Even when individual children appear to display new talents or special gifts at a fairly definite date, it is probable that such changes are the outcome of emotional rather than intellectual causes, being due to the acquisition of new interests rather than to the emergence of fresh aptitudes. For administrative and other reasons, it may be advisable to transfer children from one school to another at the age of 11 and generally to delimit instruction into separate phases; nevertheless, education, like mental development, should form one continuous process, and the education of the adolescent child should be the culmination of all that has gone before.

Intellectual Characteristics: 'General Intelligence

12. From the point of view of modern psychologists the most noticeable feature of the period after the age of 11 on the intellectual side is the gradual retardation and ultimate arrest in the development of 'general intelligence'[1], or in other words, in the maturing of those measurable capacities which have hitherto evolved at a fairly uniform speed and in close association with one another. Certain qualitative changes in the child's personality, particularly the apparent emergence of specific aptitudes and interests, become noticeable after the age of 11, though these may probably be attributable more to temperamental and environmental causes than to any spontaneous ripening of fresh capacities.

Intellectual development during childhood appears to progress as if it were governed by a single central factor, usually known as 'general intelligence', which may be broadly described as innate all-round intellectual ability. It appears to enter into everything which the child attempts to think, or say, or do, and seems on the whole to be the most important factor in determining his work in the classroom. Our psychological witnesses assured us that it can be measured approximately by means of intelligence tests. General intelligence, if assessed in this manner, is seen to

[1] See our Report on *Psychological Tests of Educable Capacity* (1924), pp. 67–77; 225–238.

increase fairly steadily up to the age of about 12, but thereafter the speed of increase begins perceptibly to decline. From the age of about 16 further growth in general intelligence, as shown by performance tests, appears to be very small, and this early completion of intellectual maturity is probably due to the same causes as the completion of physical development. Psychologists are confident that there are wide individual differences in the development of general intelligence. For instance, there is evidence to show that the abler child continues to develop, though at a comparatively slow pace after puberty, till later than the average child. The less able child, and still more the mentally deficient child comes earlier to a final stage in the development of general intelligence. *We were informed that, with few exceptions, it is possible at a very early age to predict with some degree of accuracy the ultimate level of a child's intellectual powers, but this is true only of general intelligence and does not hold good in respect of specific aptitudes or interests. The average child is said to attain the effective limit of development in general intelligence between the ages of* 16 *and* 18. Our psychological witnesses explained that this statement, which is sometimes misunderstood, does not imply that older boys and girls stop learning or that their acquired attainments, as distinct from their innate capacity, do not continue to increase. The child's general intelligence, which has been increasing up to the age of about 16 to 18, has, in the view of modern psychologists, then practically attained its maximum.

Increase in Individual Differences

Modern psychology insists on the wide individual differences that are noticeable in intellectual and emotional characteristics. One child differs from another far more than is generally supposed, and the notion that every normal child follows the same general course of development is mistaken.(1)

Since the ratio of each child's mental age to his chronological age remains approximately the same while his chronological age increases, the mental differences between one child and another will grow larger and larger and will reach a maximum during adolescence. Thus a child who is a year backward at the age of 4, is more likely than not to be two years backward at the age of 8, and still more backward at the age of 15. In general, minor differences, which were hardly noticeable in

(1) cf. Quintilian, *Institutio Oratoria*, II. 8. 7. "Nam proprietates ingeniorum dispicere prorsus necessarium est."

the Infant School, will be distinctly observable in the primary school, and by the age of 11 will have increased so much that it will no longer be sufficient to sort out different children into different classes. Different children from the age of 11, if justice is to be done to their varying capacities, require types of education varying in certain important respects.

Special Intellectual Capacities

13. Little is yet known about the character and development of those more specific intellectual capacities which are more or less independent of general intelligence. In the main, it seems probable that their development is comparatively uniform.

Motor Capacities.—From the age of 11 to that of 14, both boys and girls increase steadily in muscular strength; on the other hand, muscular dexterity or skill improves in a more irregular fashion and towards puberty there is frequently a definite deterioration in nicety of control. This is doubtless due in part to physical causes. The child's bones are growing at rather different rates and often he seems to be developing not only too rapidly for his strength, but also too rapidly for neatness and precision. It is probable that this deterioration in nicety of control is also partly due to nervous or emotional causes. There is a definite increase in nervous and emotional instability at early adolescence and this shows itself, among other ways, in a temporary decline in neuro-muscular co-ordination. Fingers may lose their deftness, indeed the symptom that is most often observed by teachers at this stage is a passing wave of apparent slovenliness in handwriting and drawing. The growing boy suffers most in this respect; the growing girl usually in a lesser degree. The boy's voice not only breaks, but becomes less delicately controlled.

Sensory Capacities

14. *Vision.*—Our witnesses told us that between the ages of 11 and 16 there appears, as a rule, to be little or no change in the sense organs themselves. Myopia, or short sight, appears to become more common, and this fact was formerly attributed primarily to continued close work at school and to intensive preparation for examinations. In fact, however, the primary cause for the change in the shape of the eye-ball inducing myopia is not known, but there can be no doubt about the importance of early attention to myopia when it is detected.(1)

(1) See page 15 of *Report of the Committee of Inquiry into the Problems Relating to Partially Sighted Children.* (1934). H.M. Stationery Office.

The child's use of visual perception no doubt generally improves during this period, but such improvement depends chiefly on the development of intelligence and the increasing range of interest and knowledge. The power to observe is influenced by interest, vocabulary, and a specific knowledge; and by increasing these, skill in observation in particular fields can be improved. It is doubtful, however, whether observation in general can be cultivated by training, except by inculcating an ideal of accurate and systematic observation for its own sake. Such habits, instead of improving frequently seem to deteriorate between the ages of 11 and 16. This deterioration is sometimes ascribed to the predominantly literary character of the traditional curriculum. It may however be due largely to temperamental changes, since certain children during adolescence become more self-absorbed, and consequently pay less attention to their surroundings.

Hearing.—The power of listening seems to improve in much the same way. There appears to be a definite progress in the ability of the ordinary child to concentrate on pure hearing with little or no aid from the more concrete sense of sight. During adolescence the child becomes more capable of appreciating abstract music. It would seem that lessons on the sounds of speech may at this stage have a definite influence on his pronunciation.

Attention

15. Our witnesses pointed out that the most striking development in mental power during the school life of ordinary children is the increasing scope of their attention. They not only become capable of concentrating for longer periods, but also in a single effort of attention become able to grasp statements and problems of increasing length and complexity. The development of attention seems to depend mainly on the development of 'general intelligence.' This increasing range of concentration has an evident bearing on the organisation of the time-table and on the length and complexity of the tasks that may appropriately be set. Lessons may be longer, and in general the pupil may reasonably be expected to listen and to think continuously for longer periods.

Memory

16. This development in the scope of attention brings with it a corresponding increase in capacity to learn and remember. It is sometimes supposed that children have better memories

than adults, and that a boy of 10 may have a better memory than a boy of 14.(1) Apparently mere mechanical retentiveness in memory usually reaches its maximum by the age of 11, but the power of intelligent recollection goes on increasing. Older children are therefore less disposed to rely on mere memorisation. They dislike drudgery and drill, and accordingly mechanical repetition is less appropriate for pupils above the age of 11. They prefer to base their power of recollection on interest and comprehension, in other words, on ability to grasp and reason out afresh the essential facts for themselves. Thus, the mechanical accuracy of the memory of a child above the age of 11 may at times fall short of what the teacher is tempted to require, but on the other hand his memory for the gist or substance considerably expands.

Imagery

17. Our witnesses pointed out that not only the strength, but also the type of memory seems definitely to change after the age of 11. Up to that age most children grasp and remember things best if they are conveyed in the form of a vivid mental picture. They are also helped by motor imagery—the memories of movement. In fact, up to the age of 11 the average child's memory is concrete rather than verbal. By the age of 11 this concrete type of thinking tends to give place to inner speech. This may be partly due to the fact that at these stages the ordinary education has become more and more verbal. As the result of listening, reading and trying to express himself through speech and writing, the pupil has now acquired the capacity to formulate his ideas to himself more concisely in language instead of thinking in the old inadequate fashion by means of mental pictures. However, as adolescence advances there is often a revival in the vividness of imagery.(2) For instance, girls' compositions about the age of 13 sometimes become highly picturesque and even fanciful, and boys of the same age, if encouraged, can sometimes produce remarkable efforts in verse and story-writing. There is, accordingly, both a possibility and a need for training and disciplining the imagination at this stage.

In addition to these changes in reproductive imagination, as it is sometimes called, changes which up to the present have

(1) See the discussion of memory in children under the age of 11 in our Report on *The Primary School* (1931), pp. 39–40.

(2) The cinema probably exercises considerable influence, both good and bad, on the imagination of many children at this stage.

been but little investigated, are taking place in the child's creative or interpretative imagination. At this stage the child often sees or feels in an object elements which are not in strictness present but the importation or imputation of which deepens and widens the significance of what is there. Thus, for instance, the sight of a bed of daffodils in flower may evoke thoughts and emotions based on association with Wordsworth's famous poem.

Reasoning

18. It is still often assumed even among teachers that reasoning is a power which only emerges towards the period of adolescence, but as we have shown on pages 42 and 43 of our Report on *The Primary School* (1931), recent researches have thrown considerable light on the process of reasoning and indicate that even in young children under the age of 11 the processes of deductive and inductive reasoning can be traced in a rudimentary form.

Reasoning is essentially dependent upon the power to perceive relations and to relate those relations to each other, so as to form a coherent and consistent system. Our witnesses pointed out that by the age of 9 or 10 the average child can deal to some extent with spatial relations. The power to argue logically about time relations develops rather later. Causal relations are not clearly understood, as a rule, till about the age of 13 or 14. It is largely owing to their increased power of dealing with verbal concepts that older children become more capable of abstract thought and inference. Our witnesses were disposed to think that the reasoning capacities of children are rather under-estimated by current methods of education. Children can be taught to argue quite logically if they are given concrete problems that are simple and within their range of interest. They are, however, unable to deal with problems that are at all complex or involve a number of successive steps until they have acquired some practice in setting out abstract ideas and relations in words or in symbols upon paper. Logical reasoning must not be regarded as a specific faculty, but rather as a *technique* that can be taught. At present children often accept their conclusions and beliefs on the strength of suggestion from their teachers or on the authority of text-books. Ideas of proof and of systematic discovery and experiment are still to a great extent foreign to the ordinary pupil. Hence the importance of attempts to encourage systematic and accurate thinking in all types of school. Furthermore, it is most

important to ensure not only that a child learns to think in a calm and dispassionate way within the limits of this or that 'subject,' but that he should realise the need for disciplined thought in every field.

Having regard to this evidence, *we urge that children should, so far as possible, be trained at school to think and reason for themselves in order that they may be in a position as adults to examine carefully and appraise in a judical spirit the many forms of mass suggestion which will inevitably meet them in later life.* While we fully recognise that it is desirable that children should be encouraged to reflect about political, social and economic problems, *we think on the whole that their capacity to deal effectively with these problems in later life can best be trained on the one hand by encouraging them to think objectively about problems which arise in the ordinary life and work of the school and on the other hand by inculcating the need for a similar attitude in later life. The habit of independent judgment may be fostered by providing them at school with suitable opportunities of thinking and reasoning for themselves.*

Formal Training and Transfer of Training

19. According to the traditional view commonly known as the doctrine of 'formal training' or 'mental discipline' the effects of mental exercises are of general application. This doctrine, in the form in which it was commonly held, is closely associated with the now abandoned doctrine of separate mental faculties which is briefly discussed in Section 11 of this chapter.[1] It was believed that if children practised one of their mental capacities on some specific subject such as Mathematics or Latin, that particular capacity as a whole was developed and thus its efficacy in respect of any subject on which it might be exercised in future was thereby improved. For example, it was assumed that, if a child learned mathematics and thereby trained his powers of reasoning, he became more logical in dealing with problems not only in other subjects of the traditional curriculum, but also in the affairs of daily life. It will be seen from Chapter I and particularly from the passages on the curriculum in the Reports of successive Royal Commissions such as the Public Schools Commission (1864), the Schools Inquiry Commission (1868) and the Royal Commission on Secondary Education (1895),[2] that this view of certain subjects such as Latin and Mathematics as mental disciplines for training the powers of

[1] See also Appendix IV.
[2] See pp. 27–9; pp. 31–5; pp. 57–61.

reasoning and so forth, was implicitly assumed.(1) However, during the last 30 years the doctrine of formal training, like the doctrine of the faculties with which it was so closely associated, has been subjected to severe criticism both by practical teachers from the point of view of general educational experience and by psychologists on the basis of the results obtained by systematic researches. We have printed as an Appendix to this Report a Memorandum specially prepared for us by Professor Hamley which sets out the views now held by leading psychologists regarding transfer of training.(2) We make here, however, an attempt to summarise the current views on formal training. It should be pointed out at the onset that much of the apparent disagreement between theoretical psychologists and practical teachers is due to the fact that they are not dealing with precisely the same problem. The psychologists in their experiments have been concerned rather with the theoretical issue, and have eliminated as many irrelevant conditions as possible. The teachers, on the other hand, are thinking rather of the total and concrete effect and take into account, at any rate unconsciously, the emotional element in the situation.

The effects of training may undoubtedly in some sense be transferred, but it has become evident as a result of systematic research that the amount of such transfer is smaller than teachers and educationists were formerly accustomed to assume. The question at issue is accordingly not " Does such transfer occur? ", but rather " Under what conditions does transfer occur and what is its comparative amount ? " When the field of training is very different from the field to which it is desired to transfer the training, there is no doubt that the amount of transfer is much less than would be the case if the field of training and the field of testing were similar. What is sometimes called direct training is more productive than indirect training, and specific training is more productive than general training. Incidentally the effects transferred may be unfavourable as well as favourable. In earlier psychological work the identical or transferable elements on which stress was principally laid, were elements of mental content, i.e., sensory elements, similar images, similar ideas and so forth. It is now recognised that abstract ideas and principles, rules and method, maxims and conduct, schemes and patterns of work may also be transferred. Lastly attitudes

(1) See Appendix IV.
(2) See Appendix V.

and ideals may be transferred so as to become operative in another field from that in which they were originally acquired. The mere presence of common or identical elements does not necessarily make for transfer. In fact the precise conditions facilitating such transfer are rather obscure. One condition however seems important. If the trainee is conscious of the common elements and also conscious of the fact that they are transferable, he is more likely to make such transfer.

Unfortunately the most important principles that require to be transferred, are too complex to be stated explicitly and too numerous to be described to the pupil in full. Nevertheless, without any such explicit formulations children often acquire a consciousness of the basic principles and consciously transfer them from one field to another. Nevertheless, mere grasp of the principles even combined with the knowledge that they are transferable, will not in itself assure transfer. In general it seems important that the pupil's knowledge should be active knowledge. A boy may write better English if he has discovered the principles of English composition for himself than if he has merely learnt these principles from a teacher or text-book. This does not necessarily imply that the pupil is to make the discovery unaided. The skilful teacher should be able so to arrange situations that the need for the principle involved and eventually its basic character are gradually brought home to the child as a result of active work. The earlier psychologists, who maintained that there was no transfer without identity of materials, overlooked the fact that identity of method might be an even more important factor. If therefore transfer be aimed at, more stress should be laid upon method than on mere results.

It seems probable that in stressing the importance of consciousness of the transferable elements contemporary psychologists frequently overlooked the wide prevalence of unconscious or incidental learning. For instance, most English children have learnt to speak English without being conscious either of the grammatical rules or of the wide transferability of those rules. It seems probable therefore that without any explicit consciousness of their character the child's mind gradually builds up mental patterns (sometimes called *Gestalten*, shapes or forms by modern psychologists) which it correctly applies without knowing that it is doing so. This especially holds good in matters of aesthetic taste. It seems probable that a great part of the final elements of a liberal education are as a rule acquired in this incidental and

unconscious fashion. Unconscious training and incidental learning must operate in school as elsewhere, but as so little is known about its conditions, the most satisfactory method must be, in general, to make the child conscious, so far as possible, of the method which he is to pursue and apply.

Psychologists who have explored the problem of transfer of training, have been interested primarily in intellectual experience and there is accordingly little experimental evidence as to whether the results of emotional experience are transferred in similar fashion. The newer psycho-analytical schools of psychologists think that such transference of emotional experience may take place on a large scale. The organisation of emotional experience must depend on elementary processes of much the same character as those that are operative in the organisation of intellectual experience, and most of them are subject to the same laws. Just as there is an association of ideas, so there is an association of emotions, not only with each other, but also with ideas with which they have been connected. Further these associations probably result in complex mental patterns or systems which tend to function as a whole. These emotional patterns, which are variously described according to their character as 'complexes' or 'sentiments,' are probably best described for ordinary purposes as interests. If one of these organised interests be aroused by some fresh stimulus, it will tend to react as a whole and conduce to a transfer of training. In other words, if an emotional interest has been built up in association with one subject, it may, under appropriate conditions, be transferred and lead to an interest in another subject. Such interest may be either favourable or unfavourable. For instance, it has been frequently observed that the attitude which a pupil takes up towards his first teacher of a new subject may influence his attitude to that subject for the rest of his school life. If he dislikes the teacher, he may dislike the subject. On the other hand, if he likes the teacher, he may become an enthusiastic student of the subject. In fact the intellectual and emotional aspects of mental life cannot be separated. The conditions of laboratory experiments on transfer of training are usually such as to eliminate, as far as possible, any potent emotional stimulus. In school, on the other hand, the emotional aspects of the learning process may be of great importance. This is doubtless one of several reasons why teachers have always been disposed to believe in the transfer of training on a more extensive scale than that which is usually revealed in typical laboratory experiments.

The following quotation from a section written by Professor Cyril Burt in the Report on Formal Training, published by a special Committee appointed by the Education Section of the British Association in 1929 summarises the present view of psychologists on transfer :—

> " The current view can be summed up as follows :— Transfer of improvement occurs only when there are *common usable elements*, shared both by the activity used for the training and also by the activity in which the results of that training reappear. The more the influenced and the influencing activities resemble one another, the greater the influence is likely to be. Practice in subtraction will improve accuracy in division, because the latter involves the former, but it may have little or no effect on accuracy in multiplication. The study of Latin will aid the study of French, because many French words are derived from Latin roots, and because many of the methods of work used in learning Latin—e.g., the use of a dictionary—will also be required in learning French.
>
> On the other hand, the fact that the functions employed in both training and test are popularly called by the same name—' imagination,' ' observation,' ' memory,' or the like—is no guarantee that general improvement will be secured. Transfer of training appears, to put it cautiously, to be much less certain and of much narrower spread than once was believed."

EMOTIONAL DEVELOPMENT

General Emotional Characteristics

20. We shall now attempt to describe briefly the emotional characteristics of boys and girls at the period between the ages of 11 and 16+. We consider it, however, important to emphasise that our witnesses assured us that many boys and girls, probably indeed the great majority, pass through this period of development without any serious emotional disturbances.

The most salient characteristics of puberty are changes not so much in intellect or aptitude, as in character and temperament. The simpler or primary emotions seem to be most directly affected, and these are now known to be closely dependent on glandular secretions. It is accordingly not surprising to find that the final maturing of the glandular system should be accompanied by noticeable changes in feeling and impulse. The teacher at this stage will probably be confronted with rather difficult problems in the conduct and

attitude of his pupils. In dealing with children under the age of 11 the teacher's main task has been to adapt the curriculum and the methods of teaching to the immature intellect of his pupils. Now any such adaptations must more and more take into account peculiarities of feeling and emotional reaction. The main changes may be described in a single generalisation ; all the primary emotions are intensified, but not to an equal degree.

First of all, the maturing of the organism gives rise to a marked reinforcement of the sex instinct. The sex instincts are present in an inchoate form in small children, but at puberty these interests are temporarily reinforced.

The changes in the sex organs themselves, and their immediate anatomical and physiological consequences, inevitably attract the child's attention; they arouse a secret curiosity, and directly or indirectly may lead to repressed feelings of alarm or disgust. Sometimes these new interests are furtive and concealed; sometimes they are only too evident.

This is perhaps the main justification for what is called sex-enlightenment either at or just before this stage. Injudicious efforts, however well meant, may aggravate the very tendencies they are intended to relieve. It accordingly seems desirable that such instruction should not be given by itself, but should arise incidentally, out of the ordinary course of lessons on botany, natural history, physiology, hygiene, and social life. With a few individuals a private and personal talk may be advisable. *But it is most important to realise the wide differences between one child and another both in detailed knowledge and in specific emotion, and the dangers which may arise, if every pupil be treated alike.*

Social Impulses

21. Another change at this period which is closely associated with the changes already described, is the rapid development of the social impulses or instincts. A good illustration is afforded by the changes in spontaneous play. By the age of 10 or 11 children are less individualistic in their play, and begin to take more notice of others. Competition rather than co-operation is the ruling motive ; rivalry and the element of competitive skill predominate. Towards the age of 12 or 13 boys tend to play more and more in groups and they willingly join in team games, and, if left to themselves, form cliques and bands. The same tendency is evident in girls. *The*

period of early adolescence is accordingly the most appropriate time for organising co-operative work, in classrooms and outside, and for enrolling boys and girls as members of some team or club, if this has not previously been done. In the classroom itself these social impulses can be usefully guided and controlled by developing a spirit of class-unity, centring round the work of the class or form.

Self-Assertion and Submission : Pride and Humility

22. Two further instincts of great importance usually develop in boys and girls at this stage, namely, self-assertion and self-submission, and corresponding to them two emotions which may be roughly identified with pride and humility. As a cause or as a consequence of the new desire for social contacts, both these impulses are strongly reinforced at this period. *Parents and teachers cannot expect at this stage the same degree of blind obedience or frank confidence that they have hitherto received,* and to demand it may be to induce the opposite effect. *Children must be treated more and more as equals and as adults,* though their experience and self-control are still insufficient for them to be allowed the full privileges of adult freedom and responsibility. Much tact is accordingly required in those who have to deal with children at the 'awkward age.' *As far as possible, outlets should be provided for these new impulses, and in school every reasonable opportunity should be afforded for initiative and independent work.*

Curiosity and other Self-Assertive Impulses

23. Another impulse or group of impulses for which outlets should be provided, is that which may loosely be described as curiosity. This, if thwarted, may give rise to tiresome behaviour. The adolescent often desires to pry into life, to experiment with existence, and to explore the world and its ways. At the same time, these impulses may clearly offer a powerful handle for intellectual instruction. *If curiosity be encouraged rather than repressed, then the pupil's own insistent questions and inquiries may often furnish valuable hints for the lines which school instruction and school methods may usefully follow.* This is an additional reason for applying a heuristic procedure within reasonable limits to the principal subjects of the curriculum.

Other self-assertive impulses are often more or less reinforced at puberty, for instance, what is sometimes called the instinct of pugnacity. A characteristic which often disturbs both

parents and teachers and which appears to be a secondary consequence of these self-assertive tendencies, is an outer hardness of attitude towards other persons, amounting at times almost to definite cruelty. An incident which would prompt either a younger or an older person to sympathy and sorrow, will often elicit at the time nothing but apparent indifference from adolescents. This seeming callousness in general represents merely a temporary phase. In various other ways there will probably be minor disciplinary difficulties both in and out of school with children at this stage. Some children seem to go through a definite phase of petty crime or vice particularly towards the end of this period, and most of these offences should be treated primarily as symptoms rather than as sins.

Depressive Emotions

24. All the emotions, inhibitive as well as aggressive, are strengthened at this period of development. The instincts and feelings briefly described above show themselves more or less openly, but there are others which manifest themselves in less obvious ways and whose presence can only be dimly surmised from a general knowledge of the psychology of children at this stage. Side by side with the self-assertive display of power and vanity there is often present a secret feeling of humility, and a tendency to follow a lead rather than to take it. The boy venerates some hero; the girl manifests an admiration for a Mistress. Children of both sexes are now apt to develop fresh fears, fresh sorrows, a new sense of inferiority and fresh capacities for disgust. These inhibitive feelings frequently produce moods of depression. Feelings and desires being driven inwards are sometimes apt to become morbid. Some children become shy, reticent, and awkward, and this in itself may produce a neurotic state. Further, social conditions and more especially fears as to their own future or the future of the family must necessarily aggravate any such tendency. It is to be noted in this context that a mood of self-assertion may frequently be followed by a mood of lethargy and indifference.

The Apparent Inconsistencies of Adolescents

25. It is just because these opposite groups of impulses are simultaneously reinforced that the adolescent appears such a bundle of contradictions. At one moment he seems bashful; and at the next moment aggressive; at one moment a coward; and at the next an audacious rebel. Sometimes his apparent

shyness may hide a repressed ambition or pride; and often an exaggerated vanity or show of self-conceit may compensate for hidden feelings of personal incompetence—a sense that he is unequal to the new responsibilities of life.

The essential characteristic of adolescence, therefore, is the strong intensification of emotional energy with a tendency to mental disorganisation as a temporary result. The child's impulses towards action are for the time being stronger than his powers of intelligent control. The overflow of these excessive animal spirits often leads to frequent collisions with authority at home, at school, or elsewhere, and, even within his own mind, the inequality of the two conflicting forces produces unstable or unbalanced conduct. If his unbalanced attitude be treated with tact and sympathy, the wild irresponsible behaviour usually disappears as the child settles down towards the close of adolescence.

Self-Consciousness

26. In many cases it is only slowly and painfully that the child begins to group these new impulses around definite aims and ideals. Most of the new aptitudes which appear to emerge at this stage are really the indirect effect of fresh interests in new aspects of life, interests in poetry, painting, music, or in biological or physical science. In the same way, the religious and philosophical problems which so often exercise the adolescent mind may probably be due more to temperamental than to intellectual changes. This is accordingly a very appropriate time for implanting fresh and wholesome interests and for bringing the child into contact with persons and subjects which may serve as desirable centres round which these emotions may crystallise.

The most important interest at this stage is the child's own interest in himself. The remarkable changes that are taking place within him and the consciousness that he will soon be expected to play his special part as a responsible and independent adult, constantly tend to focus his thoughts upon himself. The novel contacts that his instincts now impel him to make with other children of his own age continually bring home to him his social potentialities, both good and bad. He becomes sensitive to criticism and is often his own severest critic. For instance, children at this stage are sometimes so critical of their achievements and so impressed by external standards that their own attempts at creative work in literary composition or music or drawing tend to decline and in some

cases almost to disappear unless care be taken carefully to bridge the gap from childhood to adolescence. Thus a new and very varied self-consciousness is one of the most salient features of adolescent boys and girls and provides one of the most ready means for moulding their moral character.

Environmental Influences

27. The changes described above are not due wholly to a spontaneous internal development—to the maturing of fresh capacities or impulses. They are, in large measure, the natural reaction of children to the impending change in their position. A large number of the children concerned will shortly be leaving school. They know that this will be the case and that they will probably soon be able to earn their own livelihood, and that their daily life will then no longer be controlled and supervised by their parents and teachers. They expect to have a new and sudden access of freedom. They are accordingly tempted to become impatient and try to accelerate this culmination by showing some independence in advance. At the same time, they are probably secretly apprehensive as to whether they will really be able to shoulder the responsibilities entailed by an independent life, and so they are led to reassure themselves beforehand by making a few experiments. The outcome of these factors in the situation is that many of the traits described above are characteristic of what may be called the pre-independent phase in social development rather than of any definite age. Professor Burt suggested to us that it might be instructive to draw up a character sketch of the typical adolescent boy or girl such as might be compiled from Dr. Stanley Hall's work on *Adolescence* (1904) or the publications of his successors in the same field, and present it for their comments to Masters or Mistresses whose experience was limited to pupils whose education terminated at a particular age. Teachers in Central and Senior Schools would probably say that such a sketch aptly described children about the age of 13. Masters and Mistresses in Grammar Schools, in which most of the pupils would be remaining up to the age of 18, would probably say that it was a tolerably accurate portrait of a child of 17. Heads or Tutors of Colleges in which the undergraduates remain *in statu pupillari* till they take their degrees, would probably say that such a character sketch was a just description of a youth or girl of 19 or 20. Furthermore, the degree of control and supervision exercised by parents varies greatly from one

family to another. Many parents find it difficult to realise that their children are almost adults. Partly by force of habit, partly because they unconsciously resent the implication that they themselves have aged, they may continue to treat a son or daughter who is as tall and intelligent as themselves as still a child. It is important to add that the proper treatment of the adolescent youth or girl demands not only understanding on the part of the teacher and sympathy between the home and the school, but also a wise attitude on the part of the parent, and harmony in the home.

What has been said in this chapter emphasises of necessity the special factors which arise in adolescence and affect the character. We desire, therefore, to conclude with two observations. First, faults of character do not cease to have a moral significance because they are aggravated by these factors. Secondly, even at this age among the most serious and aggravating conditions are others not specially connected with adolescence, e.g., heredity, environment, the social *milieu*.

CHAPTER IV

THE CURRICULUM OF THE GRAMMAR SCHOOL

1. Our terms of reference instruct us, when dealing with the organisation and interrelation of schools other than those administered at present under the Elementary Code, to have regard in particular to "the framework and content of the education of pupils who do not remain at school beyond the age of about 16." The Consultative Committee is deeply committed by its Report on *The Education of the Adolescent* to the view that the education of boys and girls from the age of 11+ is to be envisaged as far as possible as a single whole, whether it ends at or before the age of 16 or at the age of 18 or 19(1), and in our survey of the curriculum we maintain this view. We do not, therefore, consider that Modern Schools, whether selective or not, can be wholly excluded from our consideration. There is in fact no clear line of demarcation, physical, psychological or social, between the pupils who attend Grammar Schools and those who attend Modern Schools, and all the evidence that we have heard on the existing methods of selection for one or other type of school confirms us in our opinion that the line as drawn at present is always artificial and often mistaken. But our terms of reference exclude Modern Schools, and although they have never been far from our thought, in what follows we shall deal primarily with the curriculum of the Grammar School as it is, and as we think it should be.(2)

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(1) "Primary education should be regarded as ending at about the age of 11+. At that age a second stage, which for the moment may be given the colourless name "post-primary," should begin; and this stage, which for many pupils would end at 16+, for some at 18 or 19, but for the majority at 14+ or 15+, should be envisaged so far as possible as a single whole, within which there will be a variety in the types of education supplied, but which will be marked by the common characteristic that its aim is to provide for the needs of children who are entering and passing through the stage of adolescence." *The Education of the Adolescent*, p. 71.

(2) The general principles which we enunciate will, with certain exceptions, apply also to the Technical High School. We deal with the curriculum of these schools on pp. 275–7.

PART I.—THE NEED FOR RECONSIDERATION OF THE CURRICULUM

2. The framework of the grammar school curriculum was first defined by the Board of Education in its Regulations for Secondary Schools in 1904, and in broad outline this framework remains unchanged. The salient articles in the current issue of the Regulations (1935) are :—

> "2. (*b*) The School must be a School for pupils who intend to remain for at least four years and up to at least the age of 16. It must provide a progressive course of general education of a kind and amount suited to an age range at least from 12 to 17.
>
> "7. Except with the previous permission of the Board, adequate provision must be made for instruction in the English Language and Literature, at least one language other than English, Geography, History, Mathematics, Science, Drawing, Singing, Manual Instruction in the case of boys, Domestic Subjects in the case of girls, Physical Exercises, and for Organised Games."

3. In these Regulations the grammar school education is described as a 'general education.' This is one of those question-begging phrases which are so frequently used when speaking of education, the meaning of which only becomes definite when the aims of education have been formulated. It may mean a curriculum which includes a wide range of subjects as opposed to the study of one or two different branches of learning. It may mean a training which is considered suitable for every future occupation as opposed to a training which specifically prepares for a single calling. It may mean a training that aims at the development in the pupil of certain attributes, habits, skills, sentiments and attitudes of mind; as well as the possession and use of knowledge. It may mean all of these. In the 1904 Regulations it is used so vaguely that, apart from the fact that it refers in part to the doctrine of 'faculties' which was then commonly believed but has since been abandoned by psychologists, it is not easy to see what was really intended. In the present chapter we shall as far as possible avoid the use of the phrase.

4. Although the Board's Regulations have always permitted exceptions and have been administered in a liberal spirit, they have undoubtedly exercised a strong influence in the direction of uniformity, first on the grant-aided Secondary Schools, but since 1907-8, when the Board began to make a

list of Secondary Schools which it recognised as "efficient", on the non-grant-aided schools also. But the position has changed very considerably since the institution of the School Certificate Examination in 1917. No one who can remember the welter of examinations in the years before the War, for which schools had to prepare pupils who desired to enter particular professions, can doubt that the institution of a single examination has simplified the work of the schools enormously, and no one will dispute that "under proper conditions they are a necessary and a valuable part of the educational machinery of a good school system."(1) But our witnesses are almost unanimous in their opinion that, despite all safeguards, the School Certificate Examination has not escaped the danger proverbially inherent in all machinery, and now dominates the work of the schools, controlling both the framework and the content of the curriculum.(2)

5. Various considerations point to the necessity of a thorough reconsideration both of the framework and of the content of the curriculum. As we have seen in Chapter I, the existing framework was completed in the second half of the nineteenth century during a phase of civilisation which was largely static, and is accordingly more suited to a static than to the dynamic phase in which we live to-day. The last 40 years have seen many and great changes, and the world in which the modern child is born and in which he grows up is a very different world from that of the Victorian child. The advance in technological knowledge and practice in these 40 years has been greater than in the whole previous history of our civilisation. We live at a faster rate, the old lines of social cleavage have become blurred and are breaking down; with improved means of inter-communication and transport the world has contracted and its peoples have been brought nearer together, and their lives, thoughts and actions are in closer contact.

These 40 years have also seen a great advance in the science of psychology. We know more, though still not enough, of the processes of thought than our fathers knew, and we no longer accept without question their view that there is a special virtue in particular studies by which they develop particular qualities of mind that necessarily function in other connexions. We know more, though still not enough, about

(1) *Report of the Consultative Committee on Examinations in Secondary Schools* (1911), p. 4.

(2) The extent to which this domination has grown may be judged by the fact that most of our witnesses seemed unable to think of the curriculum except in terms of the examination, while some defined the curriculum entirely in such terms.

the natures of boys and girls, and our whole attitude towards them has changed as a result. We recognise that they have a personal interest in their upbringing, something to contribute to its problems, and a point of view that we treat with greater deference.[1] The emphasis in educational theory has shifted from the subject to the child. We are more conscious of the differences between children, their varied aptitudes, sentiments and inclinations, and are no longer satisfied to put them all through the same mould. We have in particular learnt the importance of interests or 'sentiments' in education, and that the performance of a distasteful task is not necessarily a valuable discipline. We have learnt that just as men work best when their hearts are in their job, so boys and girls work best when they are interested in their work and see its purpose.

The last 25 years have also seen a large increase in the number of pupils attending Grammar Schools. In the grant-aided Secondary Schools in England and Wales the number has risen from 165,570 (4·6 per thousand of population) in 1911-12[2] to 466,245 (11·3 per thousand of population) in 1937[3], that is to say there were nearly three times as many pupils in these schools in 1937 as in 1912. In the same period the percentage of ex-public elementary school pupils has grown from 63·2 to 77·0. This evidence of an increased and increasing demand for secondary education raises new problems. In the first place, a curriculum suited to a limited group of pupils is not necessarily adequate to meet the widened range of abilities of a far larger group, drawn from a wider range of social and cultural backgrounds, and selected on the basis of an examination which in itself is not necessarily a guarantee of ability to pursue a curriculum which is narrowly defined. In the second place, English secondary education has by tradition come to be regarded essentially as preparatory to the Universities or some other form of higher education. With the increased numbers attending Grammar Schools, the majority of the pupils do not continue their studies

(1) Thus we are indebted to two Committees of boys at Winchester, for interesting reports on experiments in curriculum which had been introduced in their classes.

(2) These figures are taken from *Statistics of Public Education, Part I, Education Statistics*, 1912–13, p. 110.

(3) These figures (taken from the Board's Report for 1937, p. 126) include pupils under 11, in 1937 numbering 29,542, and ought probably to be corrected so as to give the number of pupils over 11 who belong to the stage which we call *secondary*. But there is no definite frontier between the primary and secondary stages that can be stated exactly in terms of chronological age, the frontier really depending on mental age.

beyond five years, and a substantial number leave before these are completed.(1) As has already been proved in most European countries, there is considerable danger both to the individual and to society in looking upon secondary education as only, or chiefly, preparatory to higher institutional education; such a situation must inevitably lead to an over-production of 'intellectuals' and the unrest consequent on their inability to find the niche in an economic world for which they regard themselves as fitted and prepared. We have not yet reached this point in Britain, but we were assured by some of our witnesses that the capacity of the professions in the widest sense to absorb the product of secondary schools is less than it was, and may be further reduced.

Lastly, the new edition of the *Handbook of Suggestions for the Consideration of Teachers and Others concerned in the Work of Public Elementary Schools* (1937), with its enlightened analysis of the aims and problems of the Modern School, is a challenge to the Grammar Schools to take stock of their position which cannot be ignored, for the Modern School is not only an essential part, but numerically the larger part, of the national provision for the education of the adolescent.

6. All these circumstances have led in recent years to criticism of the curriculum and its content, much of which has been brought to our notice by our witnesses and in the memoranda which we have received.(2) It has been represented

(1) The number of pupils proceeding direct to Universities from grant-aided schools in England and Wales appears to be increasing faster than the size of the schools. Thus, in 1910, 977 pupils did so, and in 1937, 3587; that is to say there were nearly 3½ times as many entrants to Universities in 1937 as in 1910. The average number for the six years 1932–7 was 4021. See p. 103.

(2) The criticisms current in the early post-war years are discussed at length in the Report of the Consultative Committee on *Differentiation of Curricula between the Sexes in Secondary Schools* (1923), pp. 58–75. This Report admitted that there was some substance, especially in its bearings on girls' schools, in the criticism that the curriculum was modelled too much on the requirements of those boys and girls who were preparing for university and professional examinations, and failed to provide sufficient contact with practical work (p. 58). It thought that there is much truth in the contention that the congestion of the curriculum frequently entailed serious consequences for the mental and physical welfare of many pupils, and suggested that the Board should devise suitable means of dealing with this problem, which appeared to be especially urgent in girls' schools (p. 61). It also found much truth in the contention that the existing curriculum is unduly rigid, especially for girls' schools, and made recommendations to meet the case of girls who might with advantage take a different course (p. 62). Finally it made a strong plea for the development of the aesthetic side of secondary education for both boys and girls (pp. 67–70).

to us that secondary education is still strongly influenced by the discredited conception of an all-round training of the faculties, and by the idea of a liberal(1) education which corresponds neither to the circumstances of the pupils nor to the needs of modern civilisation; that we think too much of education in terms of information and too little in terms of feeling and taste; that a university objective is tacitly assumed throughout the course; that the schools provide instruction in a number of subjects which are in danger of falling out of relation with one another; that the curriculum is too diffuse in some directions and too narrow in others, too rigid, and too much dictated by examination requirements; that too many subjects are carried up to the same level; that the time-table is overcrowded and congested, and leaves too little time to consider and discuss the wide implications of the subject-matter with a consequent limitation of the ability to think; that there is a strong tendency to adjust the pupil to the curriculum rather than the curriculum to the needs and abilities of the pupil, and in particular that the needs of the less academic pupil receive inadequate attention; that there is a grave tendency to over-work and over-strain adolescent pupils, especially girls.

It is not our intention to discuss these criticisms in detail at the present point.(2) That many of them are dispassionately believed by many who are competent to express an opinion is certain. That none of them is wholly without justification is also certain. We enumerate them here because they form part of the data of our problem, and will have to be faced in their appropriate setting.

7. One other preliminary point remains. One of our witnesses told us that "it is difficult to see what end is aimed at nowadays" by secondary education, and doubtless it is true that in the daily task of attending to the immediate job in hand the ultimate objective may not always be evident. On the other hand we have received convincing evidence that those who are intimately concerned with the conduct of Grammar Schools have clear ideas of the aims which they have in view, and that these aims are concerned with the training of the pupil, first as a person with a body, a mind and a spirit, second as a future citizen of a democratic country, and third as one who will have work of some kind or other to do

(1) See Appendix II, p. 403.

for a livelihood. With varying emphasis, now on one and now on another of these aspects, this aim is implicit in all schools.(1)

8. The reconsideration of the framework and content of the grammar school curriculum is accordingly the theme of the present chapter. Some Grammar Schools are for boys alone, others for girls alone, and others contain both boys and girls(2), but unless the context implies otherwise, no distinction is attempted between these three types of school. We begin with an analysis of the principles which we believe should underlie the whole curriculum of the school in the widest sense of the term.

PART II.—THE PRINCIPLES OF THE CURRICULUM

9. The curriculum of a school is, in the strict sense of the phrase, a statement or programme of its courses of teaching and instruction. There have been times and places in which the carrying out of that programme has been, in effect, the school's sole activity, any others being subordinated to it; but that could hardly be said to-day of any school in this country. To account fully for the broader views now incorporated in general educational practice would involve a diagnosis of contemporary life, but it is clear that the newer ideas have entered into the main body of schools from several distinct sources. In this country some of the most significant have simply filtered down from the Public Schools, where they have long prevailed. Others are an evident and direct response to the needs of an age which has seen an immense development in the political and industrial organisation of all the great nations. Others, again, are expressions of a profound modification in the old individualistic basis of English life—changes in opinion and sentiment which require the schools to accept responsibilities formerly borne elsewhere. Lastly there has been a notable advance in the technique of education, accompanied and fostered by an incessant discussion of ends, ways and means, by no means confined to those whose interest in the subjects is that of the teacher or the administrator.

The outcome of the changes thus brought about is that a typical school of the present day is to be regarded as not

(1) This is in harmony with the conclusion in the last edition of the *Handbook of Suggestions for Teachers*, p. 12: "the aim of education should be to develop to the full the potentialities of every child at school, in accord with the general good of the community of which he is a member."

(2) On 31 March, 1937, there were in England and Wales 511 Secondary Schools for Boys, 495 for Girls, 387 for Boys and Girls recognised for grant by the Board of Education.

merely a ' place of learning ' but as a social unit or society of a peculiar kind in which the older and the younger members, the teachers and the taught, share a common life, subject to a constitution to which all are in their several ways consenting and co-operating parties, pursuing purposes which, though not coincident, are nevertheless correlative. It is of necessity an artificial entity, in that it is deliberately created and maintained as a means of bringing to bear upon the young formative influences deemed to be of high importance either for their own development or for the continued well-being of the community. But it is, or should be, also a natural society in so far as the conditions of life in it, particularly those we think of as discipline and order, should enable its members to live on easy terms with one another, the older members exercising due influence upon the growth and characters of the younger, and the younger having space and freedom for many-sided individual development. In such an ' organisation of childhood ' formal learning, the curriculum, in the narrower sense of the word, must always retain its central place, but there will be much more—activities of a less formal nature and other activities entirely informal, which make equally essential contributions to the life of the society.

10. To consider the purposes of that life is to discuss the aims of education. Upon this subject it has been said that " every scheme of education being, at bottom, a practical philosophy, necessarily touches life at every point. Hence any educational aims which are concrete enough to give definite guidance are correlative to ideals of life—and as ideals of life are eternally at variance, their conflict will be reflected in educational theories." We do not wish to enter into the conflict and, in fact, do not find it necessary for our purpose to reduce the aims of education to a single formula. It is, however, desirable that we should keep before our eyes the several parties whose interest in and influence upon the educational process need to be borne in mind.

Of these the first and foremost is the community, acting either formally through its organ, the State, or less explicitly but none the less effectively by imposing its ' form and pressure ' upon schools that are not subject to State regulation as well as upon those that are. Speaking broadly, the interest of the State is to see that the schools provide the means by which the nation's life may be maintained in its integrity from generation to generation ; to make sure that the young are prepared to preserve—and some of them to advance—its

standards in all modes of activity which are important to the common weal. In a democratic community it must 'educate its masters'; in communities of other types it must see that the citizens are trained for obedient and willing service. Underneath this explicit, overt educational activity of the State, working through laws and regulations, there is the unformulated but very real demand of the community that the young shall grow up in conformity with the national *ethos*.

The second party to be considered is the parent. It must be recognised as a governing principle that parents, over and above their general rights as citizens, have a dominant interest in the education of their own children. Education must always begin at home, and to the end of school life continues to be shared between home and school. The degrees and modes of partnership vary widely as circumstances differ. Where parents may choose their children's schools, their influence in favouring certain types and maintaining certain disciplinary and cultural traditions is unmistakable. Elsewhere extreme poverty at home and defective standards may create special problems for the school; but here, as in the former case, the school's success depends in the long run upon a good understanding between parties who, whether they are conscious of it or not, are partners in the children's upbringing.

The function in the school society of the teaching staff (including the Heads of the schools) is complex. From one point of view teachers are the parents' substitutes and agents, doing what in the last resort is the parents' work and clothed for the purpose with a measure of parental authority. At the same time they are also agents of the community, the means by which it secures from the schools the services it expects them to render. This is true whether their salaries are or are not a public charge, and whether their work is or is not controlled or inspected by the State.

The staff has a characteristic part to play in the life of a school. Boys and girls show, especially during adolescent years, a strong tendency to organise their lives in relative independence of adult ideas and regulations. The tendency is healthy and should be accepted sympathetically, yet if left wholly to itself is prone to re-act towards barbarism instead of leading towards civilisation. The important function of the teaching staff outside their classroom activities is to act as unobtrusive observers of the general

school life, refraining from interference with it where interference is unnecessary, but prepared to safeguard its moral qualities when these appear to be threatened. In brief, their influence should take the form of guidance—a guidance which, more than any other factor, creates and conserves the individuality of a school.

11. The changes which we have described as the conversion of the school into a society have had a marked effect upon the attitude of modern boys and girls towards their education. If the schoolboy no longer creeps like a snail unwillingly to school, it is not merely because the school has become a humane institution wherein Orbilius uses his special privilege sparingly and sometimes repudiates it altogether, nor merely because modern subjects and in many cases better teachers engage the pupil's interests as those of his ancestors were often not engaged; it is because, in a well-planned and well-ordered school of to-day, he finds open to him a life that satisfies most of his present needs, physical, intellectual, social and moral.

That the value of a system of education is to be estimated by its success in doing this, is a position not likely to be disputed; but the application of the principle raises questions as difficult as they are important. In our Report on *The Primary School*[1] we had to insist that, while the teaching at that stage must necessarily look forward to the child's post-primary studies, yet it was by no means to be considered merely or even chiefly as a preparation for them. The child's life during the primary school years has, we argued, its special needs and its intrinsic values, and the prime object of his education at that stage should be to satisfy those needs and to develop those values. We maintained further that the more completely these immediate aims are achieved the sounder will be his later intellectual growth.

We apply the same principle to the secondary school stage, and hold that the results of neglecting it here, though not so obvious as in the earlier stage, are equally injurious. In the secondary school the pupil's studies must be retrospective in so far as they are based on what has gone before, and prospective in so far as they should look forward to maturer studies or to his occupation on leaving school. But before everything else *the school should provide for the pre-adolescent and adolescent years a life which answers to their special needs*

(1) *The Primary School* (1931), p. 92.

and brings out their special values. It is doubtful whether this requirement is at present generally satisfied; the view is, in fact, widely held that teaching at the secondary stage is prejudiced by the undue influence of the university curriculum. If this is true the resulting harm is, we suggest, not confined to the secondary school. Again there is little doubt that the content of the curriculum in some secondary schools is such as to distort the teaching in the primary or preparatory schools. Where this happens, the child who passes from the earlier stage to the later must generally suffer loss on both sides of the frontier. We do not claim that intuition, however highly trained, can discern infallibly the proper shape of any section of the ideal educational curve; even those who are most confident that they have found it will do well to regard their views about it as provisional and open to criticism. But to say this is not to admit the right of those responsible for any educational stage to fix the conditions of entrance thereto without regard to the intrinsic nature and requirements of the stages that precede it.

12. From the community and the State, from the parents, from the teachers, and from the nature and needs of boys and girls issue the forces that are to shape the school society. Their varying prominence is a main feature in the differences between one school system and another and between one school and another within the same system. For instance, history and custom have, in England, endowed the teaching staff with a degree of authority in determining the curriculum which puzzles and sometimes scandalises visitors from abroad; for in most of the continental countries, and even in the British Dominions, minute regulation gives the educational system a uniformity which the English mind views with uneasiness. But an English school which departs widely from the average practice can do so only with the support of a body of parents of unusual views, and its divergences are limited by the necessity of preparing its scholars for the public examinations that guard the entrance to higher education, the professions and other desired walks in life. Thus even the most independent school is subject to the normalising influence of social demands, in addition to the silent but powerful national influences from which none is free.

The question, how much autonomy should be granted to the individual school, cannot be wholly separated from the more difficult question, how much is to be granted to the individual pupil. Every man is autonomous in so far as he

is responsible for his acts and for his character, but the conditions of his life and upbringing may have greatly circumscribed his freedom of development and in that sense have limited his autonomy. A nature rich in creative force may break through the borders of a narrow environment and in defiance of limitations produce the fruits of genius. Less gifted natures accept the limitations perforce and are shaped by them. A happy result of the modern enrichment of school life is the greater scope now offered for individual reaction and growth. Boys or girls are free to pursue private scientific hobbies or to cultivate the arts without incurring the contempt or condemnation of their fellows, and, in addition to such opportunities outside the class-room, 'options' in the official time-table offer an increasing latitude of choice in school studies. This enlargement of the scope for individual development at school is no small thing, but the issue it involves is trivial compared with one forced upon our attention by the trend of events in other countries. The doctrine that the provision of education is a national concern has long been accepted among us, as well as the correlative doctrine that agents of public authority may usefully help the schools to express in their teaching and general life the best traditions of national culture and character. No one proposes to return to the position of thinkers like Herbert Spencer, who would exclude the State wholly from the field of education. But observing, as one cannot now fail to do, how completely and exclusively the State may occupy that field—turning the schools and the teachers into mere instruments of its policies, vehicles for the dissemination of the ideas it approves, and means for excluding from the minds of the young all ideas of which it disapproves—then we feel bound to assert our faith in the English compromise between State regulation and freedom of teaching, and to express the hope that circumstances will never arise to endanger its continuance. For where the schools lose their freedom, the freedom of the individual citizen is in peril. The State may through its schools offer much which the young will accept, even with enthusiasm; nevertheless, though they may not know it, their minds are in prison. We find it impossible to believe that a community will not, in the long run, suffer by such drastic limitation of intellectual autonomy, and that, on the other hand, it has not everything to gain from the free growth of individuality among its potential citizens. *In our view a school fulfils its*

proper purposes in so far as it fosters that growth, helping every boy and girl to achieve the highest degree of individual development of which he or she is capable; and all that we say about the curriculum of the school is to be applied in the light of this declaration.

13. From these preliminary observations we pass to the curriculum, using the term in the wider sense that accords with the position we have taken up. We are to legislate for a society and are to indicate the scope and nature of its chief activities. We have agreed that these are to be chosen with a view to the pupils' physical, intellectual, moral and social development and must reflect what is best in the life and traditions of the community. And we have adopted the further principle that, *while studies should not be introduced which are beyond the present comprehension and unrelated to the present experience of pupils, yet, especially towards the end of the course, studies may well be introduced to a limited extent which have a definite bearing on the next stage of their life,* whether that be a future occupation or continued education at a school or university.

We wish to reaffirm a view expressed in our Report on *The Primary School* (1931)(1), in which we urge that *the curriculum "should be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored."* Learning in the narrower sense must no doubt fill a larger place in the secondary than in the primary school, but the principle we quote is no less applicable at the later than at the earlier stage. To speak of secondary school studies as 'subjects' is to run some risk of thinking of them as bodies of facts to be stored rather than as modes of activity to be experienced; and while the former aspect must not be ignored or even minimised, it should, in our opinion, be subordinate to the latter. This remark applies most clearly to 'subjects' such as the Arts and Crafts and Music, to which we attach great importance, but which have generally been relegated to an inferior place in the school programme; but upon our view it holds good also of more purely intellectual activities, such as the study of Science or Mathematics. An unfortunate effect of the present system of public examinations is that it emphasises, perhaps inevitably, the aspect of school studies which we deem to be the less important.

(1) *The Primary School* (1931), p. 93.

The intellectual and other activities to be specified are, we have said, to represent or reflect what is of highest and most permanent significance in the life and traditions of the community. By the 'community' we mean here, in the first instance, the national community of whose life the schools are a part. It is true that the elements which have the highest and most permanent significance for our national life are not, in general, things denied to other nations; they have the highest value and significance for the human family as a whole. But for education one needs the influence of a concrete tradition or way of life, and there can hardly be said to be a common human tradition. There is, undoubtedly, a common Western European tradition, derived mainly from the Græco-Roman civilisation as it was transformed by Christianity, and one of the chief functions of secondary teaching is to make boys and girls conscious of it and regard it as something to be reverenced and preserved. But the right way to do this is to begin by making them conscious of that tradition as it exists in their own country. Hence the importance of fostering in our schools the special traits of the English character at its best; of giving English letters a chief place in the studies of youth; and of cherishing English traditions in the arts and crafts, including our once proud art of music. To speak thus is not to accept the ignorant and presumptuous doctrine that we have nothing to gain or to learn from other nations. On the contrary our pupils should discover, as occasion offers, how much our national development owes, in many of its aspects, to the influences of other peoples, should learn to respect great civilisations which are widely different from our own, and should understand how essential international co-operation has become to the progress of science and invention and the applications of knowledge and skill in increasing the health, wealth and convenience of mankind. Nevertheless, *the national tradition in its concrete individuality must, for the reasons adduced, be the basis of an effective education.*

14. A broad survey of the activities of a community shows that they fall roughly into two types, which may be distinguished as *conservative* and *creative.* The former are the multifarious activities which secure the community's continued existence and maintain its 'standards of life'; that is, they are the activities that go on in a myriad factories and offices and households, on farmlands and on the seas. The latter are most clearly exemplified in the activities of

poets, of dramatists, of painters, of musicians, of men of science, inventors and the higher classes of administrators and legislators. The difference between them is not ultimate; for the routine performances of to-day were the creative achievements of yesterday, and may—as in the use of wheels, of weaving, of the fundamental agricultural processes, of writing—have been among the highest creative achievements of all time. It is, indeed, a commonplace that purely creative activities—such as the theories and discoveries of 'pure' science—generally prove sooner or later to have conservative value. Conversely, activities which are conservative in their genesis, such as the vast industrial organisations of to-day, may have an impressive creative aspect. The antithesis—and the synthesis—of the two types appears in the individual as well as on the large scale in society. We are all, to a considerable degree, creatures of routine, clinging to familiar conditions and sequences, finding a certain satisfaction in their repetition, and prepared to devote energy to their maintenance. It is less obvious that every man is also a creator, yet, if one looks closely enough, the generalisation becomes acceptable. For instance, although the use of language as a means of communication—obviously a conservative function—consists of routines learnt in childhood and made habitual by endless repetition, there is yet some intrusion of the creative spirit even into the speech of the stupid: it has been said that no one can begin a sentence with any certainty of what it will become by the time he reaches the end of it. And it is obviously true that the dullest person constantly adjusts the common idioms of his native tongue to the task of reporting events or thoughts or wishes which, at least for him, are new. In poetry this creative spirit, which is scarcely anywhere wholly excluded, takes control of the situation, and the common means of communication becomes material for the highest and most individual art. What we have said about the effect of creative in raising the level of conservative activities does not fail here; for the national idiom has in many cases been greatly indebted for its vigour, beauty and efficiency to great literary artists who have made it their medium of creative expression.

Mutatis mutandis, what we have said about letters may evidently be said about other arts and crafts. It is also true of activities of very different type, such as physical science. The outstanding discoveries and inventions which punctuate the progress of civilisation were born in creative moments of

which no record remains, except the technical processes derived from them that spread from community to community and were handed down from generation to generation. Many of these involved acute observation and exact knowledge, but they were not science any more than forcible speech is poetry. Science, in the proper sense of the word, appeared only when the creative spirit of man began systematically to seek satisfaction in building up intelligible pictures of nature's intimate ways for the pure purpose of understanding them.

The bearing of these ideas upon our problem is direct and important. In the first place they remind us that a school, if it is to reflect truly the activities of the 'great society,' must both give the knowledge and training required for the routine duties of adult life and also foster the creative impulses needed not merely for new enterprises and adventures but even for the daily adaptation of routine and technique to changing situations. Surveying the work of the secondary schools as a whole, we cannot feel that the reminder is unnecessary. In spite of modern advances, didacticism is still overweighted in comparison with originating activity. On the one hand, the pupils assimilate too much and do too little; on the other hand, the schools are inclined to stand too long upon the ancient ways and to be out of touch with the modern movement.

In the second place they suggest that the activities which are the richest in the creative element have the strongest claim for a place in the curriculum. For these spring from the deepest needs of human nature, and represent cultural movements, generally of great antiquity, which have developed characteristic modes of discipline and technique and mark out the main lines of human achievement.

15. It does not follow, because we expect to find both these elements contained in school work and school life, that a recognition of their presence provides any basis for a division into different classes of what are commonly known as school subjects. As we have said already, the difference between the creative and conservative activities of a community is not ultimate. It may be that this difference is particularly hard to distinguish in a community of adolescents, whose capacity both to maintain what is traditional and to create and assimilate what is new is related, no less to their social tendency to learn from and imitate each other, than to their ability as individuals to respond directly to adult teaching

and influence. In every subject both elements are present, and the relative prominence of one or other will depend not only upon the content of what is taught but upon the teacher's personality and mode of thinking and even, it may be, upon the actual methods which he employs in the classroom.

In some of the main lines of human thought and feeling with which it is one of the functions of education to make children familiar—in religion, art, morality—it is often impossible to make any valid distinction, and say when they are to be regarded primarily as safeguarding the conditions and maintaining the standard of individual and social life, and when they represent adventures of the human spirit into the previously unknown and unexplored.

We have cited already the use of language as one example of how the two elements are combined almost inevitably in one field of mental and physical processes. An example of a different kind may be found in the actual organisation of the school society itself and of those many activities outside the classroom, including the generally accepted school games, which the tradition of the English Public School and Grammar School has committed, in greater or lesser degree, to the control of boys and girls themselves. The boy who is learning to exercise responsibility, in whatever position may be assigned to him in the structure of the school society, will have continually in mind a tradition to be maintained and strengthened, and a continuity to be preserved. But it is equally important that he should feel that each successive generation may have something of its own which is fresh and useful to contribute to that tradition; and that authority in permitting him to take his part, within carefully considered limits, in the regulation of school life is giving him the opportunity, in co-operation with others, to initiate as well as to conserve, to make precedents as well as to follow them.

Nevertheless we repeat that *both elements must be represented in the curriculum, and that a larger place than hitherto must be found for those activities which we believe opinion would generally agree to call creative.* This consideration does not, however, lead us to any revolutionary conclusion as to the actual content of the curriculum, though it leads us to advocate a rather drastic revision of the allotment of time as between the different activities and courses of instruction. We believe that on the basis of the foregoing considerations there is justification for including

in the curriculum of the child during adolescence religious and moral teaching and training in the care of health, bodily efficiency and grace, manners and social organisation; and also that time must be found for those lessons which consist to a greater extent of direct teaching. They comprise (I) Letters: that is the use and appreciation of language, including at least some study of the native literature; (II) some forms of Art, including Music, the most universal of the arts; (III) Handicrafts, taught with emphasis either on the aesthetic aspect, as in weaving, carving, handwriting, or on the constructional aspect, as in carpentry and needlecraft; (IV) Science, including Mathematics as the science of number, time and space. To these must be added History and Geography, which appear in two-fold guise. History is in one sense literature and is read for more than the information that it contains. Similarly, Geography has a strongly marked scientific side which entitles it to a place in our fourth group. But the two subjects have, taken together, the special function of recording and interpreting the human movement—History explaining the genesis of the present from the past, Geography teaching the dependence of men's activities upon the natural environment and their interdependence all over the globe. In these aspects History and Geography may be said to be central in the curriculum, and in our opinion are both indispensable.

We believe that of the activities which we have mentioned those associated with moral and physical training in the widest sense are fundamental and should be the concern of all pupils. But it might be contended that differences in *ingenium* sometimes justify choice among the others, though we hold that they should all be represented in the secondary school curriculum. We admit that there are extreme cases: boys and girls who are on general grounds suitable members of a secondary school but who seem to have a 'blind spot' which prevents them from gaining any good from some particular form of instruction. Where these cases are due to absorption in some other line of study for which the pupil discloses a marked talent, they are not much to be regretted: nature's own way of establishing her balance should be accepted. They are, however, much more often due to defects, positive or negative, in the pupil's early training, and may then be curable by patience and understanding. We believe that, speaking generally, the common needs and impulses of human nature are distributed with rough impartiality, and that there

are few pupils of normal intelligence whose imagination is not stirred, whose interest is not awakened, and whose powers are not engaged when they are brought, under wisely chosen conditions and by competent teaching, into contact with any of the great cultural traditions. A well-rounded education involves some degree of contact with all of them, although not necessarily contact with all at every stage. It is, in fact, the gravest defect of the present system that a boy or girl may pass through a secondary school having made no contact, or next to none, with one tradition—that of the arts and crafts—which is certainly not the least noble or the least ennobling

Not to recognise important differences in *ingenium* and ability would, however, be to shut one's eyes to plain facts. While, then, we think that, in principle, every pupil should make acquaintance with all the groups of activities in our second class, yet we also think that, where possible, there should be varied provision for pupils of varying talents and taste. Our group (IV) may be taken as an illustration. Mathematical thought is one of the greatest gifts of the Greek mind to the modern world, and the spirit of natural science the factor which above all others has made that world what it is. Without some acquaintance with these, much that is fundamental in modern life is unintelligible. But although the essential features of mathematical thought and the broad aims and achievements of science are almost universally attractive when properly presented, many minds—and by no means the least bright—are oppressed by the arid technique and the excess of detail with which the teaching of these subjects is too often darkened and encumbered. There is, therefore, a need for courses, both in Science and in Mathematics, which shall bring out the essential characters of those modes of creative activity and illustrate the part they play in the business of mankind, but shall be, for certain pupils, alternative to the standard courses. And we wish to make it clear that we contemplate a flexibility in the public examinations which would permit these—possibly unexaminable —courses to be taken under proper safeguards by aspirants for a School Certificate.

16. In the foregoing paragraphs we have, for the reasons explained, constantly spoken of 'activities' rather than of 'subjects.' In avoiding the latter term we do not wish, however, to reject one of its important connotations or implications. Some writers on education maintain that a

'subject,' such as History or Mathematics, is a kind of museum collection of activities, made after the life has gone out of them, and for that reason is not to be made the basis of school studies. Intellectual growth, it is urged, should be nourished not upon these dead materials docketed and classified in text-books, but by presenting the scholar with problematic situations to be dealt with by means of ideas and methods which may now have the historical character, now the mathematical, now the physical or biological. These ideas and methods are to be acquired as the need for them emerges, without reference to the logical categories to which they belong. Seductive as this doctrine is, even the authority of Dewey does not make it wholly acceptable. As will be seen below(1), we attach much importance to the 'problem method' which is akin to the 'project method,' and in our Report on *The Primary School*(2) have stated that in our opinion the 'project method' in the full sense of the term has a very useful place in the teaching of young children. We recognise, moreover, the great value of occasions (the production of a school play or the building of a cricket pavilion are obvious instances) which invite the application and synthesis of a considerable range of acquired knowledge and skill. But our general doctrine forbids us to go much farther than this; for its essence is that the school 'subjects' stand for traditions of practical, aesthetic and intellectual activity, each having its own distinctive individuality; and we hold that the profit a pupil derives from them does not come from casual or episodical contacts, but by his being, so to speak, put to school to them, and so getting to make their outstanding characters part of the equipment and habit of his mind. If this is to happen, the subjects must be pursued as such—though we have urged that they should be pursued actively and not merely be assimilated by memory and understanding.

For these reasons we think that proposals for unifying subjects should be entertained with some caution. There is, for instance, a good deal to be said for unifying History and Geography; there would result a useful economy of time, and the topics treated would receive complementary elucidation from two points of view. Is it, however, certain that Geography, if combined with History, could retain the valuable distinctive character which it has acquired in

(1) See p. 163.

(2) *The Primary School*, p. 102, § 84.

the hands of modern scholars and teachers?. If not, the apparent gain might actually be a loss. On the other hand, there is everything to be said for intimate working alliances between subjects, provided their essential autonomy is preserved. The teaching of Physics and of Mathematics—especially, perhaps, of Mathematics—suffers much at present from a separation which Newton would have found incomprehensible; and, as some of our witnesses have pointed out, the teaching of History loses a great deal because it neglects the contribution which the teachers of Science and Art could make to it. Again 'education for citizenship' could be much assisted by a careful planning of syllabuses which would, at suitable times, concentrate upon the relevant topics the light of several subjects.

It is, however, not inconsistent with our position to deprecate the needless subdivision of subjects—a subdivision which in some cases, such as Mathematics (e.g., the separation of solid from plane geometry, of elementary calculus from algebra), Physics, and Biology (e.g., the neglect of zoology in comparison with botany), tends to distort rather than to bring out the characteristic architecture of the subject.

17. The views on the curriculum here set forth may meet with objections or doubts from two directions. There are some critics of school teaching whose simple criterion of its value is its direct usefulness in after-life; to these we shall address ourselves in the next section. There are others, a large body with the support of a long tradition, who think that the school subjects are to be valued for the sake of the special or general training they impart to the mind. There are some who reduce this creed to a single article: 'It does not matter what you teach a boy so long as he dislikes it.' Others, however, express ideas which have been the faith of philosophers and schoolmasters from the time of Aristotle. Modern psychology has attacked them and shown that some of them are indefensible; it has, however, not convinced either experienced teachers or mature students that the faithful study of one of the major subjects does not impart some virtue to the mind. We believe that our view about these subjects makes the nature of that virtue clear. The subjects in question represent, it has been said, typical modes of activity which have been established through the centuries by the labours of a few men of supreme genius, a larger group of practitioners of outstanding talent, and an immense army of journeymen. We are apt to think of them in a too abstract

and narrow way, forgetting that for the poet, the craftsman, the scientist, his poetry, his craft, his science is a way of life with ethical as well as intellectual or aesthetic characters. There is a characteristic integrity of the poet, of the musician, of the mathematician, just as there is a characteristic ethical code of the medical man or the seaman. And just as the young doctor or sailor in the making not only acquires certain knowledge, skill and habitual reactions, but also undergoes a special kind of ethical permeation, so the student who is put to school to one of the great cultural traditions acquires something of the ethical as well as the other characteristics that individualise it. We may, then, speak of the 'training' he receives in Art or in Mathematics, using the word to mean essentially what it means when we speak of the training of the doctor or the seaman. This training may quite properly be described also as 'mental discipline.' For it involves the submission of the pupil to the influences of the great tradition; it is his endeavour to learn to do fine things in the fine way.

18. With regard to the other possible line of criticism, we accept fully the position that school studies should fit boys and girls for the practical affairs of life, and that if they do not do so they must be badly planned or badly conducted. There is, however, in our view no educational heresy so serious as the belief that culture and practical utility are mutually exclusive. We even accept with some reserve the view that education should train for the right use of leisure—sound as the doctrine is—lest it should lead to a dichotomy between studies important for serious life and those pertinent only to hours of leisure. In brief, we are not prepared to admit that any of the activities of the secondary school, assuming them to be pursued in the spirit we have indicated, are not 'useful' in the sense that they tend to raise the level and quality of life in all its phases and moments.

Moreover, the conception we have set forth by no means excludes what is called vocational education, provided that certain conditions are satisfied. There are a number of occupations—those of the engineer, the cabinet-maker, the builder, the farmer are instances—which meet no trivial or transient needs. They have long filled an essential place in the life of civilised peoples, have a characteristic ethical tradition, have nursed fine characters and given scope to originating minds and great practical powers. They cannot

be worthily carried on without scientific knowledge or trained artistic sensibility. To school a boy in any of these ancient occupations is to ensure (if it suits his *ingenium*) that he will throw himself into his work with spirit, and derive from it a definite organisation of mind and character. There are, in fact, minds whose energies are released only by studies which have the directly envisaged goal of a vocational training. In such cases the vocational education is in the fullest sense also liberal.

We accept, then, vocational curricula, provided they comply with our general principles—provided, in short, that what is special in them is merely the pursuit of a specific aim and a corresponding adjustment of direction and emphasis among the activities proper to a secondary education. But we go farther, and agree with many of our witnesses that *the studies of the ordinary secondary school should be brought into closer contact than at present with the practical affairs of life.* This contention is entirely in accord with our view of the curriculum. It has been pointed out by more than one writer on education that a certain rhythm characterises the progress of the secular movements which the several subjects represent in the school curriculum. For instance it is well known that the history of electrical science, since it began to move forward in the eighteenth century, has shown such a rhythm or succession of phases. It began with a period of wonderment and delight in marvellous and bizarre phenomena for the first time brought to light—the wonders of the electrical machine, of the Leyden jar, of the voltaic pile; it passed to the exploitation of electricity in the service of man—the phase which began with the electric telegraph and enriched the Victorian age with new utilities; and was completed by the contemporary phase—initiated by the great work of Clerk Maxwell—in which the physicist seeks to construct a picture of the whole material world in terms of electrical entities. The expert will recognise that the rhythm thus exhibited in the history of the science as a whole is constantly repeated on a smaller scale in its parts; and there is good reason to think that other great cultural traditions exhibit their own rhythms.

The writers quoted do not fail to observe that the interest of children in a subject tends to exhibit a rhythm corresponding to the rhythm of its history. There is a phase in which the subject makes its first appeal to the sense of wonder or romance. This is followed by a more sober phase in which interest

fastens upon the practical utility of the new knowledge and is disciplined to precision in its application. Lastly comes the phase in which constructive logic takes the central place —the phase of generalisation or system. Now on the large scale, now on the small scale, this rhythm seems to govern the natural movements of young minds.

Following the line suggested by this analysis, we point out that no cultural tradition is adequately represented by teaching which fails to give a proper place to each of its characteristic phases or aspects. The charge that the secondary school curriculum is out of touch with the interests of practical life is a charge—we fear not ill-founded—that it concentrates upon the 'system' stage and neglects the earlier stages of the rhythm. If such subjects as Languages, Art, and Needlecraft as well as Mathematics and Science are better taught than formerly, it is because that neglect has to some extent been repaired. We are, however, of opinion that *not enough is at present made of the 'utility phase' in the development of the pupils' interests.* The curiosity of children of secondary school age about the practical concerns and activities of the great world is frequently so strong as to amount to a passion. In Mathematics and Physical Science, for instance, the 'problem method' should be the standard mode of procedure—practical questions of wide interest and utility being made the occasion for the introduction of new mathematical or scientific knowledge or technique. In Art and Handicraft the applications of the notion are obvious. If the utility phase were adequately developed in all the subjects of the secondary school curriculum, everything which those concerned about 'education for citizenship' rightly demand would probably be granted. Pupils would leave school with a better equipment for practical affairs of many kinds and with some understanding of the way in which those affairs depend upon exact knowledge, and would be better prepared to pursue such knowledge with intelligence upon the technical plane.

19. We have stressed the 'utility phase' because in our view it is at present insufficiently developed. We are, however, far from undervaluing the importance in secondary education of the final phase of systematic knowledge and general ideas. We deem it unfortunate that any pupil should leave a secondary school without some inkling of the stupendous influences which ideas of abstract thinkers have had upon the world, and without some notion of the aims and

technique of exact thought.(1) Full adolescence is, indeed, the epoch of life at which an intelligent boy or girl first feels the attraction of great generalisations and of views and speculations which seek to bring all time and existence within their scope. This efflorescence of the growing intellect does not always appear at school and is not to be forced. But it may safely be said that the relatively abstract and systematic learning which we have here in view is always most profitable when it comes fresh to minds which have, in conformity with a natural rhythm, given themselves previously to studies of a directly practical bearing.

PART III.—THE CONTENT OF THE CURRICULUM

20. This analysis of the principles which we conceive to underlie the curriculum of the secondary school leads us to no revolutionary conclusions. So far as the activities and subjects of the curriculum are concerned, we have reached the normal curriculum of all Grammar Schools and, where circumstances are favourable, of most Modern Schools. There are of course difficulties of organisation and time-table in its practical working which may limit the possibility of doing all that we should like to see done, and these will be discussed later in this chapter. But if we admit, as we do, that it is the duty of a school to initiate its pupils into the great traditions of culture of which we have spoken, and while so

(1) The course in philosophy in the highest classes of the French *lycées* is no doubt intended to fulfil in part the purposes here indicated. Something of the same kind, less extended and much less systematic, has been attempted here and there in the Sixth Forms of English schools, but it would be rash to draw any positive conclusions from so limited a body of experience. Indeed, while one may regret that great English classics, such as the philosophical writings of Locke, Berkeley and Hume, should be commended to the attention of French schoolboys and yet be scarcely known in English schools, we must agree that the English schoolmaster has shown a sound comprehension of his pupils' needs in not introducing them to studies that demand maturity for their due appreciation. There is more to be said for an examination of moral and political questions conducted in a spirit which is at the same time practical in outlook and philosophical in temper. Such questions appeal to youth, and the English mind feels more at home with them than with metaphysical and epistemological questions—except in so far as these arise naturally in connexion with the problems of science. Recent developments in physics have given increased interest to questions which were always important and to many minds fascinating: questions about the relations between the hypothetical elements in the sciences and the world of common-sense reality. It is not easy nowadays wholly to avoid those questions in a course of science teaching, and a teacher who can raise and discuss them competently opens a new world to his pupils.

doing to provide for the growth of each pupil's powers of body, will, emotion, intellect and conscience, it ought not to omit any of the recognised subjects and activities, and none of our witnesses suggested that any should be omitted. Where, however, we believe change is necessary to meet the conditions of modern life is in the emphasis to be laid on particular subjects, in their content, and in the methods of teaching them—and by emphasis we do not mean the amount of time allocated to a subject in the time-table. Thus, there can be no doubt as to the value of the natural sciences when vitally taught, both for the part which they play in the modern world and from the interest they naturally excite in boys and girls. But we do not suggest that this value should be emphasised by an increase in the time usually allotted to these subjects. When the aim is to arouse a general interest in science and its applications in everyday life, a course for this purpose may well require less time than would a more formal treatment of the subject.

21. So far we have been thinking of a national system of secondary education for the abler children of the nation, beginning at the age of 11+ and continuing in general up to the age of 18 or 19. That course is at the present time divided into two stages, the first ending about the age of 16 and the second covering the years from 16 to 18, and the termination of each stage is marked by a public examination. It is far from being the case that all pupils remain at school for the whole course, and still less is it the case that all carry their education further in a University. Statistics are only available for the grant-aided Secondary Schools, but in these schools only 16·2 per cent. of the pupils were over 16 years of age on 31 March, 1937, and only 5·7 per cent. of the pupils who left school during the year ended 31 July, 1937 after attaining the age of 16 proceeded direct to a University.(1) These figures raise serious and difficult problems; first as regards those pupils who continue at school for a year or more after the age of 16, with or without taking the School Certificate Examination, but do not intend to proceed to a University; secondly, as regards those pupils who leave school at about the age of 16, immediately after taking the School Certificate Examination, or without sitting for it.

(1) In the Public Schools these proportions are higher but figures are not available. In one such school we were informed that only 5 per cent. of the pupils left before 16, while between 30 and 40 per cent. proceeded direct to a University. Other statistics relating to the length of school life, etc., will be found in Chapter II.

22. The fact that many pupils who are not intending to go to a University remain at school after 16 is now generally recognised. It is a natural growth from the life of the schools themselves, from the keenness of the teachers and pupils, from the longer views of parents. It is a spontaneous growth, and its vigour is derived from its spontaneity. These pupils contribute a new and important element to the Sixth Form.(1) *The Sixth Form is indeed the most characteristic and most valuable feature in a Grammar School in the training of character and a sense of responsibility, and on its existence depends all that is best in the grammar school tradition.* Not only does it make possible that free and yet ordered self-government which is the admiration and envy of educationists of other lands and a national asset, but it acts as a perpetual stimulus to the work of both teachers and pupils, providing both with a new and wider horizon. At one time the Sixth Form was composed almost entirely of pupils looking forward to a University career, and, since we are agreed that *all those pupils who are capable of making proper use of a university education should have the opportunity that the Grammar School provides*, we regard it as essential that the organisation and curriculum of Grammar Schools should continue to fulfil this function as adequately as possible.(2) But we are also agreed that *the tendency of other pupils to remain longer at school should in general be encouraged*, and particularly by the extension of the special courses which some schools are already arranging for pupils who are not going on to a University. In many cases these courses will naturally take the form of a preliminary vocational training of such a kind that the pupil will recognise its value for the next stage of life. But all these special Sixth Form courses will not be of a vocational character. Our witnesses have told us of successful courses in Modern Studies, in Economics, in Music, and in other directions. We welcome these, and we think that a wide liberty should be left to the schools in the choice and arrangement of these courses, and that no obstacles should be placed in the way of their development.

23. The second problem is that specially mentioned in our terms of reference, the curriculum for pupils who do not remain at school beyond the age of 16. Here we have to

(1) We use the expression 'Sixth Form' to cover all post-Certificate classes, the members of which exercise a special responsibility and play a special part in the life of the school.

(2) See Chapter IX, Part XI, pp. 333–7.

safeguard the interests both of those pupils who are going on to a Sixth Form and perhaps to a University, and also of the 85 per cent. who are not remaining at school beyond 16. At present, education in Grammar Schools up to the age of about 16 is tested by the School Certificate Examination; and, with a few exceptions, the courses which this presupposes, and which are therefore provided, are those which are principally designed as a foundation for further study. Are they equally suitable for pupils who in fact will not often have the opportunity of further study? The answer is not so simple as may at first sight appear.

24. There is no general factor which determines the age at which a pupil leaves the Grammar School. In many cases it may be influenced by the terms of the undertaking which many Authorities require a parent to sign before his child is admitted to a Grammar School. This usually pledges the parent under penalty to keep his child at school for a period of five years, i.e., up to the end of the school year in which he reaches the age of 16. Our witnesses tell us that parents frequently defer their decision on the question of continued attendance at school until their children are about to take, or have just taken, the School Certificate Examination. Doubtless in many cases economic conditions, for which the pupil himself has no responsibility, compel pupils to leave school as soon as they are free to do so, while the evidence of success at school afforded by passing the School Certificate Examination is a factor which weighs with parents in retaining their children at school. The important fact in all these cases is that it is impossible at the age of 11, or even at 13, to pick out with any certainty the pupils who will stay beyond 16. This rules out any solution by organising two types of Grammar School, the one with an age-range of 11 to 16, the other with an age-range of 11 to 18 or 19. Indeed all our witnesses strongly opposed such a separation as inconsistent with the policy laid down in *The Education of the Adolescent*. Even if such a solution had been practicable, we should have rejected it, believing that the doubtful advantages which might be obtained by the establishment of separate schools for pupils expected to leave at 16 would be outbalanced by the loss of the stimulus of working in a school with a Sixth Form and all that a Sixth Form implies.(1)

The same considerations apply to any organisation of 'sides' in a Grammar School on the basis of the probable length of the pupils' school life, and in rejecting this solution

(1) See also pp. 333–4.

also we are again supported by our witnesses. We consider that the *prime duty of the secondary school is to provide for the needs of children who are entering and passing through the stage of adolescence.* If in its organisation and curriculum the Grammar School puts first things first, and provides adequately for the effective training of boys and girls between the ages of 11 and 16, then, so far as the training during these years is concerned, it matters little whether the pupil leaves at 16 or 18. Our problem indeed proves to be part of a larger one. What, if any, changes in the curriculum for pupils between the ages of 11 and 16 are desirable in order that it may better subserve the needs of adolescence, and the differing interests and capacities of individual pupils? And the real difficulty lies, not in the fact that many pupils leave at 16, but that the rapid growth in the number of pupils in Grammar Schools during and since the War has resulted in the inclusion in the schools of a number of pupils who are not quick at seizing the relatedness of things or ideas, and who find French and Mathematics difficult, and so find the School Certificate Examination beyond their reach. These pupils, who are often described as 'non-academic,' and sometimes less charitably as 'mis-fits,' are to be found both among those who are admitted from public elementary schools and among those who are admitted from private schools. The number of these pupils varies from area to area, but it was represented to us that in certain areas they may amount to as many as from 25 to 35 per cent. of the pupils in a particular school.

We hope that our recommendations to secure parity of status for all forms of secondary education will make it easier to transfer pupils to schools better suited to their needs, and that without creating any sense of slur or failure. But it would be wrong to think that the presence of 'non-academic' pupils in the Grammar Schools is all loss to themselves, to their abler fellows, or to their school. If we regard the school as a social unit with a life that is in a sense a microcosm of the larger life in which pupils will later share, and a training ground for that larger life, then we believe that to restrict that school society rigidly to the intellectual cream of the adolescent population would be to impair its social value. The less academic pupils have something of value to contribute to the life of the school society, and in fact many do contribute to it. Later in this chapter we shall make suggestions to meet the intellectual needs of these pupils.(1)

(1) See p. 178.

25. We adopt as a governing principle that the course of instruction for pupils between the ages of 11 and 16 should fulfil the following conditions :—

(i) It should cater for the special needs of adolescence; that is to say : it should be related to the natural activities of body and mind during that period, and both illuminate and guide the pupil's experience.

(ii) It should develop and harmonise the powers of body, will, intellect, emotion and conscience.

(iii) It should not consist to any considerable extent in courses which are only of value if the subjects are carried further.

(iv) It should be reasonably 'all-round,' while giving full opportunity for the pursuit of individual interests.

(v) It should stimulate or create the desire to continue some form of study whether or not pupils leave school at 16.

Provided these conditions are satisfied, *we desire to leave as much freedom as possible to schools in the selection of studies and in their content,* and in the methods of teaching, which in their several circumstances seem best fitted to produce a generation of young men and women sensitive to beauty and to moral values and trained to concentrate their attention, to think consecutively and readily, to express ideas exactly and coherently, and to exercise due caution in accepting evidence and drawing conclusions. In the following paragraphs we discuss in outline the kind of curriculum that seems to us most suitable to satisfy our governing principle, but the last thing we should wish to do is to erect a rigid framework.

26. We have already in paragraph 15 arranged the content of the curriculum in what seems to us its natural grouping. For practical purposes, however, we find it more convenient here to adopt a different system of grouping, viz :—

I. English, Religious Knowledge (Scripture), History, Geography, Literature.

II. Languages.

III. Mathematics, Science.

IV. Music, Art, Handicraft, Domestic Science.

V. Physical Education.

This classification must not be taken to imply that we recognise any hierarchy among these subjects by the order in

which we have arranged these groups. We have simply adopted the usual practice of schools in the construction of a time-table. Otherwise, in view of the paramount part that health of mind and body play in the happiness of every individual, we should have placed Religious Education—"the education which inculcates duty and reverence"—and Physical Education, in its widest sense, in the forefront, as we have done in our analysis of the curriculum in paragraph 15. We recognise complete parity between the other subjects included in our groups I–IV.

27. When we include Religious Knowledge in the first group, we are thinking mainly of the religious or moral education which can be given in the classroom, though Religious Instruction or 'Scripture' is, of course, only a part of Religious Education. We discuss in our next chapter(1) the difficulties presented by this subject and the way in which we think that they can be largely overcome. The teaching of religion is not, and cannot be, examinable; but we believe that this is not necessarily also the case in the teaching of Scripture, provided a principle be adopted which we regard as in itself a right principle. We consider, in short, that *Scripture should be taught primarily with a view to the understanding of what the books of the Bible were in fact intended to mean by their authors.* Such an objective treatment of Scripture reduces the difficulties in teaching it. Moreover, all who believe that the Bible is "an inspired record of a unique revelation" must welcome this systematic study of the Bible as providing an essential background for religion. Even those who believe otherwise must admit that Christianity has played the most important part in the development of our civilisation, and that without a study of the meaning of the Bible any adequate knowledge of what that civilisation means is impossible. Finally, we are convinced that such an objective study of the meaning of the Bible will increase children's intellectual respect for, and interest in, religion. We believe also that this result is more likely to be secured in schools whose staff contains one teacher with a considerable technical equipment in Scripture comparable to that of specialists in other subjects, who could take a substantial part of the higher teaching and who would inspire and guide Scripture teaching throughout the school. Such specialists have been introduced into a number of girls' schools, but into very few boys' schools; and we are satisfied not only that this

(1) See p. 206.

policy has been justified, but that the result has been to place girls' schools markedly ahead of boys' schools in their handling of this problem.

28. Physical Education is now recognised as a matter of national concern, and as such is likely to claim greater emphasis in the curriculum and a larger share in the time-table. In a school it means more than the physical training appropriate to the individual pupil, gymnastics and games, or the training in dexterity of hand which is gained in the workshop. Its aim is to foster the habit of healthy living which is founded on an active belief in the value of health and the knowledge what to do to ensure it. But a knowledge of hygiene divorced from regular practice of its teaching is of little value; it is not what a pupil knows but what he does and how he lives that really matters. Here we have something to learn from the rising generation in other countries. Respect for the body, pride in posture, cleanliness, grace, poise and hardness of muscle, these are the evidences of the habit of healthy living. Of the importance of physical education for the hours of leisure there is no need to speak. To some aspects of sex-education we have referred briefly elsewhere.(1)

29. We take next the subjects which we have included in our fourth group. We take first Music and the Arts for their value in awakening and developing that aesthetic sensibility which is one of the most valuable of human gifts, and which, although its possibilities vary greatly from one child to another, is wholly denied to none. In the past, particularly in boys' schools, these subjects have often received too little attention, but we believe that their importance is now more generally recognised. We still, however, feel it necessary to reaffirm the recommendation which we made in our report on *Differentiation of Curricula between the Sexes in Secondary Schools* (1923, p. 138): "*That a more prominent and established place in the ordinary curricula of schools both for boys and girls should be assigned to aesthetic subjects, including Music, Art and other forms of aesthetic training, and that special attention should be paid to developing the capacity for artistic appreciation as distinct from executive skill.*" We feel this training to be as important as the training of the intellect through Languages, Science and Mathematics, and should like to see a larger proportion of the school hours available to subjects of this nature.

(1) See p. 134

In the same group we place the Handicrafts, the Domestic Arts and Gardening. As we have said above (paragraph 13), we regard these subjects as of great importance, and regret that so often in the past they have been relegated to an inferior place in the school programme. Even to-day in many schools for girls the accommodation and equipment for the domestic arts and home crafts, and in many of the older schools for boys that for handicrafts, are insufficient to permit of a proper development of these subjects. This is especially true of the provision for work in metal. It will be seen below[1] that we propose that these subjects should receive a larger proportion of the time-table.

30. We now come to the subjects in which the intellect is more intimately concerned. *We have agreed that the school should provide opportunities for the study of all of the subjects included in our first three groups. But this does not mean that all pupils must study all these subjects at the same time or for the whole of their school life.* It is impossible to accept the definition of an educated person as one who "knows something of everything and everything of something." That idea was only tenable at a time when the extent of knowledge was far smaller than it is to-day, and when it was believed that each subject was necessary for the training of particular faculties. Education means far more than "the acquisition of a number of disconnected fragments of information with such power of observation, clear thought and expression as may have been picked up by the way." The value of information has been grossly exaggerated in all systems of education, and is grossly exaggerated in popular esteem. Hilaire Belloc's lines—

> "The path of life, men said, is hard and tough
> Only because we do not know enough.
> When science has discovered something more,
> We shall be happier than we were before"

—only ridicule a common misjudgment. The accumulation of facts leads too often to a surfeit of inert uncodified knowledge leading nowhere. It is unfortunate that it is a general tendency of school examinations to attach a far greater value to a knowledge of facts than to the ability to use them. As Henri Poincaré once said: "Science is built up with facts as a house is built up with stones, but a collection of facts is no more a science than a heap of stones is a house," and

[1] See p. 187.

this statement is not without its application to other subjects. We do not wish to depreciate the value of information, but unless facts are utilisable and intended to be used they serve no purpose.

The educative effects of any branch of study consist in its suitability and usefulness in providing material for thought, for the perception of relations, for matter on which the pupil may strengthen his powers of reasoning; in its invitation to the pupil to form interests or sentiments about a subject; in its assistance in the building up of such habits as perseverance, sanity of judgment and initiative; in the building up of that complex of habits which constitutes a skill. But these values inhere, not in particular subjects, but in the spirit of study. *To obtain these values it is not necessary to study a wide range of subjects.* For a future writer a training that consists solely in the study of the classics may be a good training, and the addition of some science or mathematics would not necessarily make it any better for him. From the educational point of view, it is not the subject, but the methods of teaching that matter. This is not to say that the choice of subject is of no importance. It must be worthy of study. And this means, as we have said before, that it represents a line of activity, intellectual, aesthetic or practical, which has played an essential part in the evolution of the human spirit.

31. It has been said that "the principal weakness of the secondary curriculum, taken as a whole, is that too often it is not centred round any core, or related to any one main stem of learning, or way of looking at life." We believe that this is true, and that the lack of a unifying principle, such as used to be provided by a classical education, is responsible for a great deal of wasted and misdirected effort in the classroom. It is true that a talented pupil will often create such a core for himself, but for the majority of pupils *we think that the school itself should adopt a unifying principle in its curriculum, and we recommend that it be found in the teaching of English* and that assembly of subjects which are often loosely spoken of as the English subjects. Chief among them is the training in clear and precise expression of ideas in English, both orally and in writing; we have still, we believe, much to learn from the methods of teaching composition employed in the French State schools, and we should welcome these and other exercises designed to develop powers of comprehension and expression. It is a common and grave

criticism that many pupils pass through the Grammar School (and even through the University) without acquiring the capacity to express themselves in English. Secondly there is History, primarily but not exclusively the history of Britain, taught especially in the later years of school life with particular reference to the history of the past century; yet we cannot neglect earlier and also classical periods if we are to teach our pupils to appreciate English literature and to understand British institutions. Thirdly there is Geography which, though really a link subject between the sciences and the humanities and drawing its material from both, is traditionally regarded as an 'English subject.' Fourthly there is a reasonably wide reading of English literature itself. Fifthly there is Scripture, of which we have already spoken.

32. The importance of History, and in particular of recent history, for its own sake is obvious; moreover, since with pupils under 16 the theoretical discussion of economic questions is impracticable, and the objections to the direct discussion of current political questions are considerable, recent political and economic history is the best introduction to the study of politics. Not only does it supply the necessary information, but it can be taught so as to induce a balanced attitude which recognises differing points of view and sees the good on both sides. As we have said elsewhere it is in this way, by precept or still more by the breadth of their own sympathies, that teachers can best educate pupils to become citizens of a modern democratic country.

Geography also can give a conception of the world and of its diverse environments and peoples, which should enable boys and girls to see social and political problems in a truer perspective, and give them sympathetic understanding of other peoples. For the older pupils a comprehensive scheme of world-study, based on well-grounded principles, can offer scope for the consideration of a variety of vital problems bearing on social, economic and political life. Such a course, in our opinion, is to be preferred to the isolation of one aspect of geography, for instance physical, political or economic geography.

The reading of Literature is not only an important side of the work in English, but, with Music and the Arts, also plays its part in awakening and cultivating aesthetic sensibility. Literature is, of course, not the only subject of the curriculum in which the emotions are concerned. There is a strong emotional element in the sentiments that a pupil develops

for any subject, but in the study of Literature emotional training is more direct and more easily developed. This is one reason why the value of wide reading in Literature is now universally admitted. We have, however, grave doubts as to whether books should be used and studied at this stage in the manner that is necessary if English literature is to be an examination subject. We believe that prescribed books do more to injure the growth of a budding sentiment for literature than to encourage it, and therefore recommend *that books should no longer be prescribed in the School Certificate Examination.*

33. One important aim of the English teaching will be to give the pupils some idea of the meaning of civilisation and of their own country's contribution to it; some recognition, in fact, of the heritage into which they enter and the responsibilities awaiting them as citizens. But other countries have contributed as much or more to the building up of western civilisation, and some knowledge of their differing contributions and attitudes to life is needed for a sympathetic understanding of them. This is one reason why we believe that *all pupils should be given the chance of learning at least one language other than their own.* We leave the decision as to what language should be taught first to the schools. The majority of schools have for traditional reasons adopted French, but if the first language is to be a modern one, the claims of other languages are at least as cogent, and have led several schools to adopt German or Spanish. Other schools in which two languages are included in the general curriculum prefer to take Latin first, a course of procedure which, in the case of schools sending many pupils to the older Universities, enables them to compete on more equal terms with the Public Schools.

The cultural value of the linguistic study of a modern language consists largely, it is true, in a quickened realisation of the way in which words express thought, and in greater clarity and precision in the use of the mother tongue; but it consists not least in the enlargement of sympathy and interest; and in an age dominated by the spoken and written word and a world in which distance is ceasing to count, these qualities are of outstanding importance. These cultural values may be obscured by bad methods of teaching or by the necessity of bringing pupils with little linguistic ability up to the standard in composition required in the School Certificate Examination. But many boys and girls who will never write a prose in a

modern foreign language can learn to read a book or newspaper in that language intelligently and to understand and speak on simple topics, and may acquire some understanding of the people who use that language and of their contribution to civilisation. There is, too, the further gain that in a foreign language, in the early stages at any rate, answers are in general right or wrong, and the difference between knowing and nearly knowing is clearly defined.

In the first year of the study of a foreign language it should receive as much as one lesson a day; and those who, after a fair trial, show no signs of an aptitude for languages should be allowed to drop it.

34. We think that *all pupils whose taste and aptitude justify the study of a second language should begin this about a year after taking up the first.* The case for a modern language is obvious and in certain circumstances may be unanswerable. There are, however, strong arguments for choosing an ancient language, especially in the case of a pupil who is going to do Sixth Form work of an academic character. By experience of, and contrast with, an earlier civilisation we obtain a clearer knowledge of our own; and Latin should probably be chosen in preference to Greek because of its bearing on our ordinary non-scientific vocabulary and of the cultural background which it so often supplies in our literature.[1] The claim of Latin to a place in the modern curriculum has often been hotly contested, but this is largely due to the traditional methods of teaching it. In no other subject has the end been placed at so great a distance, and the realisation of its value emerged so late. *We regard it as essential that Latin should be so taught that something definite is gained long before the university stage.* Interest in Rome should first be awakened through some knowledge of Roman life and achievement, and through the large Latin element in our non-technical vocabulary; the first Latin passages read should include many which illustrate Roman life; the grammar should be simplified and the rules of syntax dealt with as they occur in the matter read; while for very many pupils the time given to the writing of Latin should be very greatly reduced. We believe that in this way it is possible to give Latin a value and an interest that the pupil can appreciate even if he leaves school at 16.

35. No school subject, except perhaps Classics, has suffered more than Mathematics from the tendency to stress secondary

[1] It should be noted, however, that a few schools prefer to make Greek the second foreign language.

rather than primary aims, and to emphasise extraneous rather than intrinsic values. As taught in the past, it has been informed too little by general ideas, and instead of giving broad views has concentrated too much upon the kind of methods and problems that have been sometimes stigmatised as 'low cunning.' It is sometimes utilitarian, even crudely so, but it ignores considerable truths in which actual mathematics subserves important activities and adventures of civilised man. It is sometimes logical, but the type and 'rigour' of the logic have not been properly adjusted to the natural growth of young minds. These defects are largely due to an imperfect synthesis between the idea that some parts of mathematics are useful to the ordinary citizen or to certain widely followed vocations, and should therefore be taught to everybody, and the old idea that, when mathematics is not directly useful, it has indirect utility in strengthening the powers of reasoning or in inducing a general accuracy of mind. *We believe that school mathematics will be put on a sound footing only when teachers agree that it should be taught as Art and Music and Physical Science should be taught, because it is one of the main lines which the creative spirit of man has followed in its development. If it is taught in this way we believe that it will no longer be true to say that "the study of mathematics is apt to commence in disappointment"*(1), *and that it will no longer be necessary to give the number of hours to the subject that are now generally assumed to be necessary.*

36. The part played by the Natural Sciences in modern life is so important an element in the experience of boys and girls that its inclusion in the curriculum needs no justification. But there is a general feeling that *the common practice of concentrating on a systematic study of particular sciences lays too early a stress on the 'phase of generalisation' and too little on the earlier phases of romance and utility*(2), *and accordingly is not the best approach to science for adolescent pupils.* This feeling has already led to the provision of courses (and papers in the School Certificate Examination) in General Science as alternatives to courses in particular sciences. These courses in General Science aim at relating science to everyday life and experience. They avoid what is of a purely academic nature and illustrate laws and general principles by special reference to practical applications drawn from the physical and biological

(1) A. N. Whitehead, *An Introduction to Mathematics* (Home University Library), p. 7.

(2) See pp. 162–3; p. 183 and p. 244.

world around. In this way General Science makes a more direct contact with life and creates real interests. It appears probable that, as experience is gained, these courses will move further away from the particular sciences both as regards material and method of treatment. Some account of relatively advanced work might well be included.(1)

37. So far we have been dealing with the subjects which we believe are desirable for the general mental equipment of the adolescent pupil as an individual and a future citizen, and have said little or nothing about his equipment as a future worker. We have done so, not because we do not recognise that preparation for a vocation is an important part of education, but because we believe that specialised training should come last in time. But the extent to which a 'general' training is prolonged must depend on circumstances, such as the natural capacity of the pupil and the ability of the parent to continue to support his child. We have already called attention to the less academic element in the Grammar School at the present time. In the Metropolitan area and in other large towns, these pupils mostly seek to obtain clerical posts in industry and especially in commerce, and leave in large numbers at, or very shortly before, 16. We think that their circumstances are such that some preliminary vocational training is in their interest. Further, it is claimed—and the claim must be allowed—that *for these pupils the provision of commercial subjects is a strong incentive to renewed vigour and industry and likely to react favourably on all their work.* We consider it is essential that such training should be given with an equipment and accommodation that does not fall below the standard required for other subjects, and by teachers of equivalent qualifications. We agree with our witnesses who have said that it is not so much commercial education which is needed as education for commerce, and this means a somewhat different treatment of such subjects as English, Geography and Mathematics, though not necessarily so different a treatment that these subjects lose all cultural value. But under present conditions what is most important for the immediate objectives of the 'non-academic' pupils is a mastery of the mechanical skills of Typewriting and Shorthand. We are told that a sufficiently high standard in each of these can be obtained with five lessons a week during the fifth year (15–16) of the grammar school course without

(1) In Chapter VI we deal at greater length with some of the subjects which have been discussed in the preceding paragraphs.

jeopardising success in the School Certificate Examination. We accordingly recommend that for these pupils opportunities to acquire these mechanical skills should be given after the age of 15, that their arithmetic should include something that might be called book-keeping, and that their instruction in English, History and Geography should lay stress on those aspects which will be of vocational advantage for them.

38. We have been pressed by some of our witnesses to include other subjects in the curriculum, and in particular Economics, and we have considered with some care the case put forward for this subject. *We have come to the conclusion that we cannot recommend its inclusion as a specific subject before the age of* 16. As we shall see later, it is hardly possible to find time in the time-table for existing subjects, all of which we regard as indispensable constituents of the grammar school atmosphere. But beyond this, we are not convinced that a serious introduction to the science of economics is within the capacities of the normal grammar school pupil under 16. Nearly all the evidence of successful courses that we have received relates to Sixth Form work, and therefore clearly supports our attitude. This does not mean that nothing can be done to prepare and dispose the pupil for a later study of economics. It is clearly unsound to deal with the history of the last two centuries without reference to economic conditions and their bearing on the social and industrial problems of that period. The economic aspects of geography have obvious importance in this connexion and the course in Mathematics ought to lead to an awareness of the importance of statistical method. But in all this the reference to economics should aim at little more than showing the pupils how the science of economics links on to the branches of study of which they know something, so that when they want to study it later they know its relations to their existing knowledge.

39. It is usual to supplement the lessons given in school by exercises to be done by the pupil out of the regular school hours, either consequent on or preparatory to these lessons. In the boarding school these are known as 'preparation' and present no difficulty. In the day school they are known as 'homework,' and the widened range of social and cultural backgrounds from which pupils are now drawn, the long school day, the distances which many pupils travel to and from school and the distractions of wireless have created difficulties. These difficulties are real, but it is easy to

exaggerate them. Some can be reduced if the school is able to secure the sympathetic co-operation of parents.

We believe that homework plays a necessary part in the education of the adolescent, and especially in consolidating knowledge, in perfecting skills, in developing the power of acquiring information from books and the self-controlled power of application. All of these have to be mastered by each pupil for himself, and though the first steps can be made in the classroom under guidance, it is only continued personal practice that can give any mastery. It is very difficult to find sufficient time for this within the regular school hours with the existing range of subjects, if the present standards of attainment are to be maintained.(1)

We believe on the other hand that it is possible by a careful regulation of homework to secure these results without undue encroachment on the pupil's spare time. The circumstances of schools and the rate at which different pupils work vary so greatly that we hesitate to suggest any prescriptions as to the time to be spent on homework. Experience shows that, where a time is prescribed, pupils commonly disregard it in order to finish the job in hand. It is the business of the school to see that what is asked is not unreasonable, and that where different teachers set work for the same evening the sum total of the different demands is also not unreasonable. Here we believe that the ' tutorial system ' which we suggest below may provide a convenient check.

The regulation of homework is of particular importance during the months preceding an external examination. At such times many of the more conscientious pupils, amongst the girls especially, may spend over their books almost the whole of their time between arriving home in the afternoon and going to bed, perhaps at a late hour. The bow which is always bent loses its spring.

Broadly speaking, we think that no homework should be set to Junior Forms in which the majority of the pupils are under 11; that less should be required of the younger Forms than of the older; and that the quota set for the week-end should not exceed that set on the other days of the week, so that the children may then have a free evening to share fully in the family life.(2) We think also that another free evening is

(1) cf. Board of Education: Educational Pamphlet, No. 110, *Homework* (1937).

(2) This assumes that there is no school on Saturday morning, and that Sunday is a *dies non.*

desirable in the course of the week, and that this may well be chosen to fall on a day when pupils remain after school hours for various corporate activities other than games. A free evening in the middle of the week is refreshing to a child, and has a good effect on the work done on other evenings. These suggestions would mean that homework should never be required to occupy more than five evenings and where possible only four.(1)

There are certain considerations of a purely social character to which attention should be given in the regulation of homework, since they all have a bearing upon the time which should be allotted to it. The most important of these is the question of general home conditions; where these are adverse, the possibility of substituting preparation at school for homework might well be examined.(2) Other considerations which we have in mind are the length of journeys to and from school, insufficient sleep, and employment after school hours. Where fatigue is ascertained to have been due to such causes, and not to homework alone, the school medical officer should be brought into consultation, and special steps should be taken to ease the burden either of homework or of home duties. Watchfulness in the matter of home duties is especially necessary in the case of girls, and mutual adjustment of the claims of school and home is a delicate task for teacher and parent. The teacher should be aware, too, of the extent to which children may expect help in their homework, and of the extent to which anxious parents may themselves set additional tasks, a practice which we emphatically deprecate.

Informal extensions of school work which are not ordinarily classed as homework include general reading, play-acting, local studies and direct observation, practical science, art and crafts, and music; in addition to a multitude of hobbies of a more general kind. Some of these activities can be developed through school clubs and societies; others the pupils will follow independently, and the teacher will reserve his advice till he is asked for it. They all add variety to the class work, and in pursuit of them the pupils learn something

(1) In making this suggestion we assume that the recommendations made on p. 188 for lightening the curriculum will be adopted.

(2) Even where the home conditions are comparatively favourable, many children, for the sake of quietness, may do their homework in some corner of the sitting-room, or in their bedroom, where the artificial lighting is insufficient or unsuitable. The attention of parents might well be drawn to the resulting danger of eye strain and to the measures they should adopt to obviate it.

of the wise use of leisure. There is, of course, no guarantee that children will learn to use their leisure wisely, but they should have the chance of doing so, and the school can give them active guidance in employing their free time not merely for pure recreation, but for forming useful interests of their own.

40. We recommend that in *all Grammar Schools, all the pupils should, for the first two years after entry, i.e., up to the age of about* 13½, *follow a curriculum which contains the subjects included in our groups I, III, IV and V.* Broadly speaking, we should like to see this curriculum common to all types of secondary schools in order to reduce the curriculum difficulties in transferring pupils from one type of secondary school to another. In *addition we recommend that the grammar school curriculum for these years should include one foreign language,* and the consideration which we have just mentioned implies that a foreign language should be included where possible, for suitable pupils, in the curriculum of Modern Schools.(1) We recommend the inclusion of one foreign language at this stage because we are assured by psychologists and teachers alike that the special aptitudes and interests concerned in the study of a foreign language or mathematics do not as a rule declare themselves much before 13, and the best way to establish their absence is to try out the pupils and observe their response to the teaching. As we have said above, pupils who after a year show little linguistic aptitude had better drop the foreign language. Those who on the contrary show linguistic ability should begin a second foreign language in the second year. We admit this exception to the common curriculum up to 13½ in the interests of the abler pupils who would be seriously handicapped by a later start in a second language if they intend eventually to proceed to a University.

At the end of the second year we suggest that *each school should make a careful review of its pupils in the light of what has been observed of their progress, development and tastes during the two preceding years, and that the opportunities for transfer to schools better adapted to their abilities or interests should be freely used.*(2)

This also seems to us the right moment to sift out the non-academic pupils and to make suitable alternative provision

(1) See *Handbook of Suggestions for Teachers* (1937), pp. 145–146, Section 33.

(2) The problems of transfer are discussed more fully on pp. 338–41.

for their further education. If this sifting out is done carefully at the age of 13½, a second sifting out at the end of their third year of school should yield very few more 'non-academic' pupils. To defer the provision for the needs of these pupils until the age of 15, in the hope that some belated development of ability may take place, is clearly unkind to the majority of them.

41. In a Grammar School with at least an annual three-Form entry, the usual and obvious way to deal with variations in pace and ability is to organise the school in parallel Forms. This system of organisation has already been found necessary in the larger Modern Schools and has been found to work very successfully. In a Grammar School with a two-Form entry this is still possible, but the Forms are necessarily less homogeneous. Only in the small Grammar School with a one-Form entry is this impracticable. In these schools there is no obvious way to secure equality of treatment for the abler and less able pupils, and it will require all the administrative skill of the Head Master or Mistress to secure a reasonable compromise. The pupils also will have to rely more on themselves and less on formal lessons. It may be necessary to omit some of the subjects which are normally studied in larger schools. For the most part these small schools will be found in less populated areas, and we shall have more to say about them when we deal with 'The Country Grammar School' in the fourth section of this chapter.(1)

So far as 'subjects' are concerned, we do not envisage much difference between the parallel Forms in a school, except in the number of languages taken; the differences will be partly in the content of subjects, partly in the pace of the work, but more in the methods of teaching. What we have said already about the natural rhythm exhibited in the growth of the great cultural traditions, and the use to be made of this rhythm in the teaching of a subject applies with increased force to the methods of instruction in the Forms which contain the less able or less academically minded pupils. While we think that each of the three phases of wonder and romance, of utility, and of generalisation and system should be experienced by all pupils, whatever their ability, we are convinced that the interests of the less able pupils will always be best met by a greater stress on the utility of a subject than on the phase of generalisation.

(1) See p. 189.

The adoption of the method of organisation suggested in this and the two preceding sections—a common course for the first two years, followed by parallel but different courses in the next three years—will, we believe, make it possible to meet with substantial justice the varying interests of pupils of different abilities, different tastes and different outlook for their future years without injury to the conception of the school as a natural society. The organisation can also be elastic enough to deal with the more exceptional pupils, who are genuinely unable to profit from particular subjects and not merely discouraged by defects in their previous training, or who are absorbed in some other line of study for which they have real ability.

42. In our discussion so far, we have deliberately omitted one consideration which ultimately must be the deciding factor in determining what it is possible for a school to attempt, and that is the time-table. It is often said that the grammar school curriculum is overcrowded, that it is trying to teach more subjects than it has the time to do properly. The time-table is certainly fuller than it was before laboratory work was required of all pupils and not only of pupils specialising in Science, before Modern Languages had gained their present importance, and Physical Education had been taken seriously.(1) The justification for the criticism really lies in the growth of content in different subjects. The increased use of specialists for the teaching of subjects has beyond doubt been of great benefit to the schools in improving the technique of teaching and in arousing sentiments for particular subjects, but specialists, and in particular the associations of specialists, do not always escape the danger of estimating too highly the share which their subject can play in the intellectual training of a boy or girl. Their attitude towards the content of their subject is more often "What can I put in?" than "What can I leave out?", and the result is a demand for

(1) It may be of interest to contrast the time-tables given in the text with one which existed in one of the smaller Public Schools about 1880. The time-table consisted of 21 periods per week, varying from 70 to 85 minutes in length. Scripture, History, Geography, Science and Art, each received one period; English and Physical Training, two periods; Latin, Greek or German, French and Mathematics, three periods. The majority of the boys went into business, but it sent a few boys each year to the University, and they do not seem to have been handicapped by the small amount of time given to many subjects, since five fellowships were gained in Classics, Mathematics, History and Science by old pupils who had been educated under this time-table.

more time for their subject which can only be granted by a reduction of the time given to other subjects.(1)

The position became sufficiently serious in 1922 to be the subject of a Circular (No. 1294) of the Board of Education. The immediate occasion was the publication of the reports of the four Committees appointed by the Prime Minister to report on the positions of English, Classics, Modern Languages and Science in the educational system. Each of these reports had suggested a minimum time as necessary in Secondary (i.e., Grammar) Schools for its subject. The Science Committee asked for not less than six periods per week, the Classics and Modern Language Committees for five periods for one language and nine periods for two, the English Committee for from two to four periods. The Circular examined how these recommendations fitted in with the demands of other subjects, using as their basis a week of 35 periods of 45 minutes, and produced a time-table which we rearrange in accordance with the grouping we have adopted in paragraph 26.

	One Language	*Two Languages*
I. English (2–4), History (2), Geography (2), Scripture (1).	7–9	7–9
II. Languages	5	9
III. Mathematics (6), Science (6).	12	12
IV. Drawing (2), Music (1), Manual Work (2).	5	5
V. Physical Training	2	2
Total	31–33	35–37

From this time-table the Board drew the conclusion " that the minimum claims of individual subjects (in boys' schools) can be satisfied, if at all, only if no additional provision whatever is made to meet the particular needs of individual schools," and for girls' schools that " the satisfaction of the minimum claims of all subjects represent a much more difficult, if not an almost insoluble, problem."

We have ourselves made a similar though more detailed analysis of the time-table as affected by what we should like

(1) Thus a recent *Memorandum on the Teaching of Geography* (1935) states that a minimum allocation of three periods per week for the whole of a five-year course is necessary for the adequate treatment of the geography course, and thinks that such an allocation of time is " just rather than generous."

to recommend, assuming for the purpose a school with a three-Form entry and a time-table of 35 periods per week, each of 45 minutes, which is given on page 187. In this time-table we assume that there will be a normal course, common to all pupils for their first year, and taken in the later years by the majority of the pupils who will leave about or shortly after the age of 16. In addition we assume the provision of the following alternative courses :—

X for pupils learning a second foreign language from the second year onwards.

Z for pupils learning a third foreign language from their third year onwards.

Y for pupils specialising in Science or Mathematics from their fourth year onwards.

W for pupils learning a second language who desire to give increased attention to artistic or practical subjects in their fourth and fifth years.

C for 'non-academic' pupils in their fifth year who desire to do some Commercial Subjects in their last year.

We have also endeavoured to leave a 'pool' in each course to meet the requirements of individual schools.

This experimental time-table(1) is sufficient in our view to show that our recommendations are practicable in the sense that they do not necessarily impose a heavier burden on the schools than they are at present called upon to bear.

43. On the other hand, our recommendations do little to ease that burden, and we think that it should be eased. The necessity is greater in the case of girls than in the case of boys because the demands of the home on the girl tend to be heavier and reduce the opportunities for rest and recuperation that her out-of-school hours ought to provide, while the adolescent years make a heavier demand on a girl's vitality than they do on a boy's. There would appear to be three possible ways of easing the burden, and only three : to reduce the number of subjects studied by a pupil, to reduce the content of subjects, or to do both.

(1) We wish to emphasise the fact that this time-table has been drawn up for the sole purpose of testing the practicability of our recommendations. It does not mean that we wish to recommend any particular distribution of time ; not only is this not our concern, but we should deplore any restriction which would interfere with the freedom of individual schools to make experiments or introduce variations to meet their special needs and opportunities. We are concerned simply to make the general recommendations already indicated, and to justify our view that they can be given practical effect.

EXPERIMENTAL TIME DISTRIBUTION (35 periods Weekly)

	1st Year	2nd Year		3rd Year			4th and 5th Years					5th Year
	Normal Course	Normal Course	Course X	Normal Course	Course X	Course Z	Normal Course	Course X	Course Y	Course Z	Course W	Course C
Group I. English, Scripture, History, Geography ..	10	10	10	10	10	8	10	10	10	8	10	10
Group II. Languages	5	4	8	4	8	12	4	8	4	12	8	4
Group III. Mathematics, Science	7	7	6	7	6	6	7	6	10	6	4	4
Group IV. Music, Art, Housecraft, Domestic Science ..	7	7	4	7	4	4	7	4	4	4	8	4
Group V. Physical Education ..	4	4	4	4	4	4	4	4	4	4	4	4
Commercial Subjects..	—	—	—	—	—	—	—	—	—	—	—	8
Pool	2	3	3	3	3	1	3	3	3	1	1	1

The first involves the abandonment of the general principle that the curriculum should be 'general' in the sense that it deals with all the traditional modes of intellectual activity. As is stated in Circular 1294," in practice a general curriculum is only justified in so far as it is a nucleus curriculum, and leaves sufficient margin of time for the individual tendencies of schools and their staffs to operate." We have already urged that the educative effect inheres not in a subject but in the spirit of study, and are therefore prepared to agree, in the third and later years of the course, to *a reduction in the number of subjects studied at any one time, provided these include English itself, some Science, and, in the case of the abler pupils, at least one foreign language.*(1)

As regards the content of subjects, we have already recommended a reduction in the content of Mathematics and a simpler course in Science. *We think that some further relief is possible if greater variation in the level to which other subjects are carried is accepted in the School Certificate Examination.* If a subject is carried so far as is necessary for the pupils to realise its utility for life—which is a very different thing from its utility for this examination—and has given them the opportunity of developing sentiments about it, that is sufficient for the needs of the stage of adolescence. The only unity that we claim for the curriculum during adolescence is that it deals with the natural and cultural needs of that particular stage of life. Whether all the pupils leave at 16, or some at 16 and some later, the work of the school is well done if it has fostered the impulse towards continuing education, and there can be no more certain way of stifling that impulse than to suggest that the education is in any sense complete when, at whatever age, a pupil leaves school. It is a common metaphor to speak of the tree of knowledge and the branches of knowledge. We are not greatly concerned with the complaint that 'loose ends' are left in the teaching of subjects, for we remember that every branch and shoot of a tree has a 'loose end,' and that these are the active points of growth. The teacher who has stimulated the vital force that makes growth a moral and intellectual necessity has done well.

(1) We contemplate that it will still be a condition of recognition for grant that the school offers opportunities for instruction in all the subjects enumerated in Regulation 7 of the Regulations for Secondary Schools.

We are convinced that *it is a grave mistake to fill a time-table with periods of formal instruction.* If pupils are to acquire a habit of forming reasoned conclusions, they must have time in which to practise it. There should be definite periods in the time-table in which no formal teaching is undertaken, in which all kinds of questions, at times relating to the formal work in hand, but more often to other matters of general interest—and among these we include many of the problems of citizenship—may be informally discussed by the pupils themselves. In these discussions the teacher, divesting himself for the moment of his authority, will, as opportunity offers, join, but always on 'level' terms with his pupils and with no attempt to override the opinions of his pupils except by fair argument. Head Masters and Mistresses should also be able to count upon a certain number of periods in which they can give a pupil what they think he needs most at the moment without thought of a future test or further objective. Unless the time-table can be lightened, neither of these real necessities in the training of the boy or girl can be satisfied.

44. Finally we realise that our recommendations necessarily involve some reform of the School Certificate Examination, since it is inevitable that the syllabuses in the different subjects for that examination should be generally followed in the schools from which pupils sit for it. This is too large a question for the present chapter, and we content ourselves here with one quotation from the Circular which laid down the principles and purposes of the School Certificate Examinations: "*It is a cardinal principle that the examination should follow the curriculum and not determine it.*" With this we are in absolute agreement.

PART IV.—THE COUNTRY GRAMMAR SCHOOL

45. All that we have said above about the curriculum of the Grammar School applies also to the country Grammar School. If we devote a separate section to these schools it is not because we regard them as a separate type of school, but because they have their own difficulties and also their own opportunities, and it is convenient to deal with these separately. The country Grammar School has to serve many purposes which may be served in large towns by a range of secondary schools with a variety of curricula. The capacity of the school to do this is frequently limited by its size and the difficulty of offering to its pupils a wide choice of optional subjects; and it is often an arduous task for both teacher and pupil

to pursue special courses of study to a high level. At the same time, the setting of the school affords valuable compensations: the resources of the countryside are at the disposal of the teacher, and provide a wealth of phenomena which should enable him in an exceptional degree to impart a live colouring and a realistic quality to his teaching. There is yet another quality which his teaching may possess. The student of Nature is not faced by whole truths; if he unsuspectingly accepts every ascertained fact as a whole truth, he will be ill-fitted to deal with the problems which Nature presents. This point, in its application to school practice, was stressed by several witnesses, notably by Sir John Russell, Director of the Rothamsted Experimental Station. "Numerous examples," he wrote, "are given in my lessons on Soil, in which I set out the experiments designed in consultation with the scholars in the village school at Wye. The observations were made in the field; the current explanation was recorded, but it was often seen to be inadequate or in conflict with some other explanation offered elsewhere; an experiment was therefore designed to test the matter." *Country schools thus enjoy unrivalled opportunities of framing syllabuses which have a high practical value derived from their close affinity to the world outside the school, and which at the same time should develop in the pupil an inquiring and critical mind and the power of independent judgment.*

Nevertheless, our evidence shows that the desirability of planning their syllabuses and of determining their methods of teaching with relation to the environment of their schools is not universally accepted by country schoolmasters, apparently for fear of becoming too vocational in their outlook. This has made the National Farmers' Union "feel that the present curriculum tends too much to emphasise the abstract and academic type of study." The Head Master of a country Grammar School was quoted as holding the view that "in rural areas the bias in Secondary (i.e., Grammar) Schools should be on the cultural side if anywhere." "Country boys," he said, "need special attention to language training and literary studies, including the language, literature and culture of at least one great country other than their own. I believe also in the value of the study of Latin for boys living in a rural area. . . . I strongly advocate a cultural bias in rural schools; there would, I think, be something to be said in favour of giving a rural bias to urban schools, if practicable." Even such a policy as this, if it were not pursued too ardently,

might not exclude other more practical interests; but it implies a narrower interpretation of the term 'culture' than we have implied above, and it represents in an extreme form the flight from vocationalism. Few, perhaps, would share this opinion as to the special needs of country boys and girls, and the opportunities of country Grammar Schools. On the other hand, the great majority of those best qualified to judge agree in holding that a country Grammar School which takes full advantage of its setting provides a form of schooling which is equally valuable for the pupils who will find their careers in the towns; the whole of their education will have been made the more vivid and effective through their familiarity with the phenomena of the countryside, and through the illustrations which it has been possible to draw from this source. This we confidently believe, and indeed it has been largely recognised throughout Western Europe, where the education of boys and girls in town and country alike commonly includes the study of plant and animal life.

We hardly need to stress the value which such a treatment of school subjects as we have indicated will have in increasing the practical wisdom of the worker on the land, and in preparing pupils for other careers which have a background of agricultural interests. The number of those pupils who go on to the land from any particular school may be small; the number of those who will follow occupations mainly concerned with agriculture is much larger. Colonel Le Breton instanced a small country Grammar School in which out of 140 leavers, although only 24 had gone on to the land, at least 60 more would in their future careers be mainly or largely interested in agriculture. The degree of their connexion with agriculture varied from the close affinity of estate agency to the occasional business done by engineering firms; but in all the occupations he enumerated, such as bankers, solicitors, auctioneers, accountants, rating clerks, grocers and butchers, a more or less intimate knowledge of agriculture was needed.

46. Some 40 Grammar Schools were recognised by the Board of Education, in their pamphlets on *Rural Education* (1926) and *Education and the Countryside* (1934), as "making a conscious effort definitely to relate their curriculum to their rural environment" (1); and they appear to fall roughly into

(1) Board of Education: Educational Pamphlet No. 46: *Rural Education* (1926), p. 23. Both in this Pamphlet, and in the later Pamphlet on *Education and the Countryside* (1934), the Board commented on the fact that the development of such schools had not been "the outcome of any considered plan," but had "generally been due to the initiative and interest of individual Head Masters."

two groups, according to the extent to which this has been attempted. This distinction corresponds to that drawn by some of our witnesses between schools which have imparted a 'rural colour' to a curriculum of the traditional type and those which have developed an 'agricultural bias.' Thus, the National Farmers' Union said that what they had primarily in view was that an opportunity should be given to all pupils "to gain a working knowledge of the scientific principles which are the basis of a true application to the life and problems of the countryside." At the same time, they added that they viewed with approval "the institution of separate agricultural forms in the larger well-staffed Grammar Schools in Counties where agricultural pursuits are predominant, and where the grouping of pupils for specialised training is practicable"; and they welcomed proposals for further development in this direction, though such proposals, in their view, should not in any way conflict with "a revision of curricula capable of general application."

This revision of curricula should in our opinion begin about the age of 13½ or 14. We have already recommended (1) that all secondary schools should follow a similar curriculum for the first two years of their course, and *we are not disposed to make any exception in the case of the country Grammar School in the framework of the curriculum for these years, although we hope that full advantage of the opportunities offered by the setting of the school will be taken in the illustration of all subjects.* What may be said in general regarding curriculum after the second year of the course is applicable to both groups of school as described in the preceding paragraph. In the third year the difference will be mainly one of emphasis, and may affect the periods allocated to the various subjects in the school time-table rather than the treatment of these subjects. In the three or four country Grammar Schools which already provide more than a 'rural colour' in their syllabuses, the divergence begins in the higher Forms at about the age of 15, with a course of more specific agricultural training, for which specialist instructors, a school farm, and more extensive equipment become necessary, together with modifications of the time-table involving a longer school day and remission of homework. At a later stage we refer, as an alternative to Technical High Schools of an agricultural type, to the possibility of developing on a regional basis more Grammar Schools of this type, having the special characteristics described by

(1) See p. 182.

the Board of Education in the two pamphlets we have mentioned.(1) In what immediately follows we refer in general terms to the curriculum with a 'rural colour' which we consider to be desirable in a greater or less degree for all Grammar Schools in country districts, and which will be more fully developed in its technical aspects by schools with an 'agricultural bias.' In regard to both types of school we desire merely to suggest a few leading principles, not to prescribe syllabuses or teaching methods.

Among the features which should be specially prominent in the curriculum of a country Grammar School, the Director of the Rothamsted Experimental Station mentioned the Local Survey and the School Garden. There are two types of survey: the general survey of the surrounding region and the intensive survey of a small area. A general survey should form the basis of much of the teaching in Geography and History. He said that such a survey should enable the teacher to present geography as "the mark left on the face of the earth by nature and by man"; the pupils should be taught to observe and to record accurately, using the 6-inch map, of which tracings could be made for working purposes. From the survey material the teacher would also draw concrete examples to illustrate general laws and movements, and to show the development from the older country life and systems of agriculture to the present time: historical data could be obtained from old estate and tithe maps: the Church and Manor House would offer data of local interest for entry on the historical chart.

In connexion with the school garden, Sir John Russell called attention to the extensive service for agricultural research which was now in operation, and suggested that rural schools should be made to feel that they could play an active, even an important, part in this service. He gave details of an experiment which the Rothamsted Station had conducted in recent years for the purpose of ascertaining whether school gardens could attain the necessary standard of accuracy. The problems were of educational significance and of commercial importance: the value of a new fertiliser extracted from colliery spoil heaps, the comparative efficiency of new slags produced by steel makers, the fertiliser value of a new compound derived by a simple process applicable to small gasworks, the fertilising properties of dried poultry manure. The pupils were inspired

(1) See pp. 323-5.

by knowing that they were employed on a joint enterprise by a great scientific institution, and that this was not an exercise book problem, but something which mattered. The investigation was satisfactory even from a professional standpoint, and showed that the schools could do work of real importance which made the gardens centres of living interest. There is no doubt that the educational value of school gardening becomes very high, when trials associated with the science work of the school can be conducted under the statistical control of a local or national experimental station.

The school garden and orchard, and a little land on which some livestock, such as bees and poultry, are kept, are the outdoor laboratories of the country Grammar School. It is essential for their proper maintenance as an integral part of the science accommodation of the school that there should be some hired labour for routine manual work. In his use of the outdoor laboratories the teacher will recognise, as one of our witnesses said, that "lessons should spring from the soil or from the things that grow upon it." Material for indoor teaching will be provided; and, out of doors, large-scale experiments suggested by classroom discussion and laboratory discovery will be carried out. The principles underlying tillage and cropping, and the control of certain plant and animal pests of the farm, the market garden, and the commercial orchard, can be illustrated. The records of the soil-physics plot and the weather station will supply useful data for lessons in geography and mathematics, as well as in science. In conjunction with the advisory staff of the local authority, and the lecturers and research workers of a neighbouring agricultural college, work of an advanced character should become possible in the higher Forms, even when a school farm is not available.

47. The country Grammar School is well situated to pursue the study of Arithmetic and simple Geometry in their more practical aspects. Calculations may be based on the work of the farm, such as crop yields, manure and seed requirements, the content and value of hayricks and clamps, conversion of live weight to dead weight, and the general costing of farm operations. Geometry should include the measurement of gradients, and simple surveying with the use of the plane table.

The broad outlines of the curriculum in General Science, which we indicate in Chapter VI, admit of adaptations to meet the special requirements of country schools. *We would,*

however, particularly emphasise the need for more Biological teaching. Some progress has undoubtedly been made towards removing the reproach made at a meeting of the British Association 10 years ago, that, except for some botanical teaching in girls' schools, Biology and Zoology were " hardly known as school subjects " ; that very few boys had any biological instruction beyond the nature study taken in their first year. *There is, however, still need to bring home to teachers the importance of Biology as a fundamental element in any course of science teaching judged to be suitable for a rural school : not only because of its practical application to the problems of plant and animal life, but also because a knowledge of Biology creates a fresh consciousness and appreciation of the manifold interests which life in the country has to offer, and a new attitude of mind towards the agricultural industry.*

If lessons are to " spring from the soil or from the things that grow upon it," such practical interests as the following will provide some useful sources from which to derive material for the teaching of General Science : (i) the more common wild life of the countryside ; (ii) farm and garden crops ; weeds of grassland and arable land ; fungoid diseases ; injurious and beneficial insects ; (iii) the surface geology of the district ; soils and soil studies ; (iv) the principles of hygiene, based upon simple bacteriological studies ; the necessity for cleanliness at all stages in the production and handling of milk and other food substances ; (v) the principles of nutrition, e.g., in poultry husbandry ; (vi) the use of the internal combustion engine and of electricity on the farm ; (vii) farm machinery, and its relation to the study of Mechanics. Some of the necessary data connected with these fundamental interests can be obtained by country children incidentally, and as a possibly unobjectionable form of homework.

Craft training in the country school does not differ materially from that in the town school. In the wood and metal workshops, the pupils should be trained to do a workmanlike job with the ordinary tools which are in common use, especially on a farm. This does not mean that sound training in technique should be neglected, or that appreciation of fine craftsmanship need be lacking. Courses for girls should include training in the utilisation and preservation of farm and garden produce. If the school possesses a dairy, such courses should also include dairywork.

Owing to the mechanisation of agriculture, the teaching of Handicraft for the older boys in a country Grammar School

will approach closely to what may be described as 'elementary engineering.' An engine or a machine will be dismantled, and simple repairs will be undertaken. Pupils will be initiated into the operation of tractors, pumping machinery and power units; the efficient working and upkeep of the common agricultural implements will be taught. All such teaching should, however be closely related to the principles which are involved.

Where a district is not mainly agricultural, an education authority may desire, in the interest of some of the pupils, to develop such practical activities as these beyond the point required for agricultural teaching, because they have a general bearing upon a local engineering industry. Instruction of this character should not be described as an 'engineering course,' but should be regarded as an alternative science course containing engineering elements. It is important that, in attempting to be technical, the school should not fail to provide the necessary scientific background.

Any alternative course of this character must fall within the general framework of a grammar school education. There should be no attempt to copy the curriculum of an Evening Institute in which, the number of teaching hours being limited and the pupils being older and already engaged in industry, it becomes necessary to take various short cuts which do not give a broad foundation for such knowledge of mechanics as is desirable in a Grammar School. They either presuppose that the foundation of scientific knowledge has already been laid, or assume that the outlook of the pupil is limited to his immediate industrial needs.

A grammar school course containing such practical activities will thus be fundamentally a course in simple engineering Physics, with such changes of emphasis in the teaching of mechanics as arise from the greater stress laid on the applications of the science and the appropriate illustrations drawn from engineering practice.(1) In order that mechanics may have the right kind of background and illustrations, it is essential that the master in charge should be a graduate or have an equivalent qualification, and that he should have had also actual practice in engineering, or some similar form of industry.

(1) This change of emphasis may involve some departure from existing syllabuses of physics designed to meet the requirements of the School Certificate Examination. We hope that a solution of the difficulty may be found by the provision of an alternative science syllabus and papers.

The other special element in such a course, mechanical drawing, will begin with geometrical drawing, including solid geometry, before the pupil attempts to draw parts of machines; and, when he comes to draw them, he will do so with some knowledge of the materials from which the machines are made and why these materials are used, of the reasons for their form of construction, and of the purposes for which they are intended.(1)

PART V.—THE SCHOOL AS A SOCIETY

48. We have said above in paragraph 9 that a school "is to be regarded not merely as a 'place of learning' but as a social unit or society." There was a time when the only substantial activity of the school outside the classroom was the playing of games. It is now recognised that this is not the only, and not the most important, function of the corporate life of a school. The social life of a school enables it to deal practically with the training of boys and girls for life in a free community by providing opportunities in which to foster the habits and practise the virtues which are essential for the well-being of that life. For, as has been well said: "the English ideal of education is a 'liberal' one, that is to say, it

(1) We append a note on the equipment which is desirable for such a general course of elementary engineering.

Workshop for Handicraft in Wood: The workshop for woodworking crafts should contain as a minimum in addition to the benches, which might be double-sided—each side fitted with a parallel vice—the following simple machine tools:—

2 wood-turning lathes, about 6-inch centres.
1 wood-turning lathe, about 4-inch centre.
1 small circular saw, with an approximately 18-inch saw.
1 small planing machine, about 10 inches.
1 band-saw with wheels from 14-inch to 16-inch diameter.
1 grinder for grinding plane irons and chisels.

Although it is desirable in a modern Junior Workshop to have power-driven woodworking machinery, this should be used with care under personal direction of the teacher, in the first place as a demonstration, and probably not by pupils until they are in their later years.

Workshop for Metalworking: Fitting, Turning and Smiths' Work: In addition to the usual fitters' benches, with a vice for each of the pupils using the shop, there should be at least 6 simple lathes, 2 six-inch and 2 four-inch sliding, surfacing and screw-cutting lathes, and 2 small centre lathes, about 3½-inch centres; 2 or 3 drilling machines, a small shaping machine, a small universal milling machine, a tool grinder, a power-driven blacksmith's hearth, a hearth for brazing, an anvil, and the usual smith's tools; a power saw; a surface grinder.

With the introduction of power-driven plant it will probably be found essential to have additional staffing over and above what would be required if hand work only were taught. This can be accomplished by the use of demonstrators, who will act as assistants to the teacher in charge.

conceives of human beings as essentially free, and not only excludes anything which would render those in tutelage servile-minded or would hamper the growth of the best that is in them, but (more positively) encourages initiative and the shouldering of responsibility from the earliest years. On the other hand it is not 'individualistic.' That is to say, it exalts public service above self-advancement, and regards the corporate life of teachers and taught in the common society of school or college as one of the most important instruments of education, whether for the character or for the intellect."(1)

That the school society is artificial in that it is ordered for a definite purpose, simplified in that it excludes all economic factors, and defective in that it is often confined to a single sex, and therefore is only an imperfect microcosm of the national life, is true. But it has one great compensation. The day school draws its pupils from homes and environments of very different kinds at an age when the desire for companionship is strong and social distinctions count for little, and, receiving all on equal terms, it becomes a classless society to whose well-being all can contribute of their best.

It is natural that the conception of the school as a society was first developed in the boarding school where the welfare of the community depends largely on the organisation of the out-of-school hours. Every boy or girl is conscious of belonging to two societies, the home and the school; but the boarder belongs to them for alternating periods of time and the day-pupil belongs to them both simultaneously. In the case of the former there is no conflict between home and school; in the case of the latter every school activity pursued out of school hours necessarily encroaches on the pupil's free time and may easily clash with the arrangements of the home. Many schools have found that the concentration of their corporate activities (other than games) on a single afternoon of the week has eased many difficulties(2), and the recommendations we have made above (page 180) as to homework, especially those relating to the week-end, will, we believe, ease others. We recognise that both home and school contribute to the education of the young, but the fact remains that, for the

(1) Professor Dover Wilson, in his introduction to Miss Grier's *Life of Winifred Mercier* (1937), p. xvi.

(2) In these cases, the pupils usually remain at school for an early tea followed by various corporate activities, and special arrangements are made for the journey home of pupils who live at a distance.

child, schooling is a whole-time job and makes more demands on his physical and emotional sides than is often realised. It is only fairness to the child that, so far as is possible, the home should refrain from making social and other demands on him, except at the week-end, when the home life naturally comes in, and by so doing gives to day schools a valuable characteristic. All this makes it important that parents should understand what the school is doing and give it sympathetic support. Many schools have accordingly established 'Parents' Associations' which hold regular meetings in which the aims and plans of the school are explained, and in which difficulties, such as those arising from its corporate life or from the setting of homework, are discussed. The evidence which we have received as to the success of these associations, in securing the willing co-operation of the home, leads us to attach high value to them.

It is obvious that the success of the social life of a school hangs on the provision of adequate playing-fields, on the sufficiency and convenience of the school buildings, and on both playing-fields and buildings being available outside the regular school hours whenever required for corporate purposes. As we have said in a previous Report: "to use the premises of the day school for evening school work seems an economical device; in reality, if it involves the sacrifice of any profitable activities of the day school, it is very extravagant."(1)

49. We have spoken of the school as an ordered society, and this implies that there must be school rules. But these should not be many in number, and should certainly never be made arbitrarily; their purpose should be obvious or easy of explanation to the boys and girls. The only rules that seem to us necessary are those compelled by the nature of the school buildings and surroundings, those essential for the promotion of the health and general convenience of the school community in order that the work of the school may best be carried on, and those which aim at preserving the actual structure or reputation of the school society and preventing the claims of that society from being infringed or the reputation from being impaired. Such rules play their part in the education of the pupils. Through them they come to recognise the place in civilised life of external authority expressed in terms of law, and learn that discipline is a help and not a hindrance to a useful life. If, as has been attempted with success in some

(1) *The Education of the Adolescent*, p. 247.

schools, the pupils themselves take a share in the making of the school rules, they will also learn how a free society makes its laws for the general good.

50. In this ordered society we wish to provide ample opportunities for the exercise of responsibility, initiative and public service in order that its members, young and old alike, may play a full and directly useful part in its life. It is the English tradition to leave much of the organisation of the school games in the hands of the boys or girls themselves, and also to delegate considerable responsibility for the good order and well-being of the school to a body of school prefects. We attach value in this form of self-government to the placing of authority in the hands of senior boys or girls selected from those who have most intellectual ability (a system associated with the name of Dr. Arnold) and we welcome the fact that this is normally the case in day schools owing to the constitution of their Sixth Forms. In the first place, such a system tends to increase respect for intellect as such, and therefore acts as a useful corrective to a natural and wholly proper appreciation of athletic ability. In the second place, it forces clever boys and girls to take responsibility and to face practical problems. It is an immense gain to have inculcated into growing boys or girls that, if they have more than ordinary ability in any field, this ought to mean that they should be prepared to take more than an ordinary part, and face more than ordinary responsibility, in the general life of the community in which they live. We believe this to be the case even although care is necessary to safeguard certain pupils from finding general responsibility or particular duties an excessive strain.(1)

There is a further consideration that we wish to emphasise. In so far as self-government is placed in the hands of the boys or girls who have shown the greatest intellectual ability, we shall best secure not merely an honest attempt to do what seems to be required for the good of the school, but real reflection on the nature of its problems and real foresight as to these. It is an immense gain to a school that this should be secured. But it is just as relevant to later life. There has seldom been an age of which it was more true that good intentions or even unselfishness are not enough, when it was more necessary to encourage children to realise from the first

(1) The need for care is perhaps specially great in the case of girls and more particularly girls from homes in which the circumstances necessarily involve considerable strain.

that the problems of any society, whatever it may be, demand for their solutions not only good intentions and self-sacrifice, but real intellectual effort and reliance on the result of such effort.

In some schools the experiment has been tried of giving to a greater number of boys and girls than is permitted by the prefect system in its traditional form a collective share in the internal administration of the school. We have had evidence of the success of these experiments in a few schools in which the Head Master has deliberately entrusted to such a larger group of boys powers of action and legislation within a defined sphere, and we think that further experiments of the kind may well be made where circumstances are favourable.

51. The school itself, however, is generally too large a unit to provide opportunities in the exercise of responsibility, initiative and service for more than a minority of its members. Some use is often made of the Form organisation in making individual pupils, or, better, groups of pupils in rotation, responsible for the good order and tidiness of the classroom, and this has the advantage that even the youngest pupils can take their part. But the Form is not an ideal unit because it is confined to too narrow a range of age and is too impermanent in constitution for the purpose. Some other system of organisation is wanted, and it is usual in day schools to adopt what is called a ' house system ' on the analogy of the separate Houses of the larger boarding schools. Pupils are assigned on admission to a particular House for the whole of their school life, and the House becomes a permanent group within the school. Such a House has the psychological advantage of being a real microcosm of the larger school unit, which can reproduce in its organisation the main features of the school organisation, and the practical advantage of extending the opportunities for competitive games and activities within the school.(1)

There are other ' groups,' supplementary to the ' House,' which many schools have found valuable for their younger boys and girls, for whom the School and House offers too limited a scope for their gregarious tendencies. Chief among these are companies of Scouts and Cubs for boys, and of Guides and Brownies for girls. In these every member can

(1) The house system has the further advantage that it distributes authority and prevents any one pupil from exercising more authority than is good for him.

find satisfying scope for mutual service for the general good of the group and for gaining a general handiness and resourcefulness, together with a practical acquaintance with the countryside.

There are two further considerations that arise in connexion with the organisation of the school as a society to which we attach importance. In the first place, *we think it is wrong to allow the organisation to control the whole of the hours that are spent outside the classroom.* We cannot accept the doctrine which was common not so very long ago and may still be held by some teachers, that the whole of the life of a boy or girl during the years of schooling should be occupied only in work, organised recreation and sleep. We believe that what we have said in Section 43 of the time-table applies equally to the hours outside of the classroom. There is a real danger that the demands of the House and the School may be so great that they leave the pupil no time of his own in which to pursue his own interests and hobbies, and no time in which to assimilate and consolidate his experience.

In the second place, as we have said in paragraph 10, the function of the staff in the corporate life of a school is one of guidance, not one of control. The broad lines of the organisation of the school society will naturally be planned by the staff, but the *internal organisation for specific purposes should be left to the pupils, even though it can be done more easily by the staff.* It is far easier for a teacher to interfere too much than to stand aside and watch, only taking a hand himself to avert serious catastrophe. There must be small catastrophes if the experiences of boys and girls are to be real. They will miss much of the value of school life unless they have had many opportunities of making mistakes(1), and unless they have had opportunities of showing by their collective action or by the action of their leaders that they have learnt from the mistakes and can rectify what has gone wrong.

52. The major activities of the school society are undertaken by the School itself or by its Houses. Among these we include the daily assembly, the school chapel (if the school is fortunate enough to possess one), the common midday meal(2), the School and House games, and School or House functions such as the lecture, the concert (both formal and

(1) *The Education of the Adolescent* (1926), p. 246.

(2) See pp. 118-9, and pp. 302-3, and *The Primary School* (1931), p. 203.

informal), and the acting of a School or House play in the preparation for which many besides the actual performers are engaged. To these we may add the educational visits to museums, factories and places of historical interest which many schools find valuable in connexion with the work of the classroom. Many schools also arrange for school journeys or for a stay in a school camp, and attach great value to these for the scope they provide for the exercise of leadership and public service. We have no doubt as to their value in the corporate life of a school.

There are other activities in which groups smaller than the House are usually concerned, and our witnesses, and the many memoranda for which we are indebted to Masters and Mistresses of schools, have told us of school clubs and societies of many kinds, literary, scientific, musical and debating, clubs for chess and other indoor games, others for photography and hobbies of different kinds, school orchestras, etc. No school probably attempts all of these, nor is it advisable that it should do so. Many are doubtless ephemeral, and designed to meet the needs of a particular moment. It is not by the multiplicity of its clubs, but by the enthusiasm and vigour of their life that they contribute most to the corporate health of the school. These activities have the added advantage that in a mixed school they can be shared by both boys and girls.

But these activities need not be, and in fact are not, restricted to school or personal interests. Further activities take the form of adventures in altruism and social service by which the school transcends the confines of its normal life. There are schools which take an active interest in settlements and boys' and girls' clubs in poorer neighbourhoods, others which maintain a hospital cot or support societies and organisations for the benefit of children, others which support schools at home or abroad, such as the Fairbridge Schools and the Eton Memorial School at Ypres. In others again there are branches of the League of Nations Union which help the pupils to take an interest in current international problems.

53. *We have been much impressed by the evidence which we received as to the value of a 'tutorial system' in the internal administration of a school, and we recommend that such a system should be widely tried in all types of secondary schools.* This means that pupils are enrolled on entry in tutorial groups containing from 30 to 40 pupils, each group

being in the charge of a member of the staff who is responsible to the Head Master or Mistress for keeping close contact with the pupils in his group and with their progress, including out-of-school activities, throughout their whole school career. We think it probable that such Tutors gain a view of their pupils' development more general than is possible for Form Masters or Mistresses, and more intimate and detailed than Heads of schools can hope to obtain, and that they would as a result be able to advise the pupils in their charge as to their choice of future occupation. In those schools which have already adopted this system, the Tutors often get to know the parents of their pupils well and sometimes visit their pupils in their homes. We think that the contacts established in this and other ways will often be of great value in the critical years immediately after leaving school. And we believe that for suitable teachers such a system would give work that would be at once a new and real interest, and a most valuable preparation for later promotion. *Our evidence also leads us to commend the growing practice in large schools of including on the staff a 'Careers Master'* who, by establishing friendly relations with employers and employment bureaus, is able to help pupils in finding posts when they leave school. In smaller schools this position is naturally filled by the Head Master or Mistress.

54. Through an organisation of the school society founded on the broad principles which we have developed in the preceding paragraphs, boys and girls learn to recognise themselves as members of a community—first the group, then the house, and finally the school—with common interests and purposes, in which it is good to live. They will also realise something of the obligations and of the call for service which such a membership involves. Pride in their school, *esprit de corps* and loyalty to their school will naturally follow. These are worth much, but pride and loyalty are worth more when they are founded on a clear perception of the features that justify them, and this involves the possibility of comparison with other similar units such as are provided by the house system. *Esprit de corps* is a dangerous thing, very apt to degenerate into a kind of chauvinism and an unwarranted self-satisfaction, rather than to secure progress, just in proportion as it is cultivated for a particular body when there is not reasonably close contact with other similar bodies. Loyalty to a House or School must be realistic,

seeking to recognise and to remove defects, and must be governed by a due recognition of the claims of other similar bodies, and of society as a whole.

In this chapter we have been chiefly concerned with the general principles and conditions which govern the curriculum, and have only indicated in brief outline the various subjects and activities which we consider should be represented in the programme of studies offered by the Grammar School. Between these subjects we recognise complete parity. We have therefore not thought it necessary to discuss all the subjects of the curriculum in detail, particularly because we desire to leave as much freedom as possible to schools in the selection of studies and their content. But in the course of our inquiry we reached the definite conclusion that radical changes are necessary in respect of Scripture, English, Latin, Mathematics and Science, in the scope and content of the syllabus, the time allocated to the subject, and the aims and methods of teaching. We found that the nature of these changes could only be made clear by writing at greater length on these subjects, and we accordingly devote Chapter V to Scripture, and Chapter VI to English, Classics, Mathematics and General Science.

CHAPTER V

SCRIPTURE

We believe that there is a wide and genuine recognition of the value and importance of religious instruction and the teaching of Scripture in schools, and that the time is favourable for a fresh consideration of the place that they should occupy in the education of boys and girls of secondary school age. The subject has been hitherto admittedly difficult and sometimes controversial. No kind of religious instruction can fail to raise issues relating to the meaning of life and to human destiny which in the world outside the school are the subject of profound disagreement. The problem of religious education in the secondary school is largely the problem of finding an approach to the subject which can enlist the disinterested enthusiasm and give scope to the professional ability of teachers who may differ widely in their personal convictions. We believe that the present temper of public opinion is such that the educational issues involved in the teaching of Scripture may be faced fairly on their own merits, and that they are no longer obscured by past controversy. The fact that during recent years it has been found possible in so many parts of the country to use agreed syllabuses of religious instruction in public elementary schools provided by local education authorities is one of many signs which encourage us to hope that a problem which has been solved with a considerable measure of success in the primary school may be found equally capable of solution in the later stages of school life.

There is ample evidence that the subject is attracting greater attention both inside and outside the teaching profession. As one instance of this may be quoted the inception of the Association of Teachers of Religious Knowledge, a spontaneous growth from within the teaching profession, which has now been merged in the Institute of Christian Education. This Institute, founded in 1935, aims at the promotion of Christian education at home and overseas, and collects and distributes information on all matters dealing with the teaching of Scripture. We have noted that a conference on the provision of improved opportunities for teachers to equip themselves for giving religious instruction, which met at the Board of Education in 1933–4 under the Chairmanship of Lord Halifax, then President of the Board, reported

that "as regards secondary schools, the Conference have little doubt that . . . increasing interest in religious instruction is being shown by Local Education Authorities, by Governing Bodies and by the teachers themselves and that as a result the general level of teaching is being raised."(1) With that opinion we are in agreement and we assume that implied in the 'increasing interest' is a belief—which we certainly share—that if religious instruction of any kind is to have a place in the curriculum it should be as well taught and effectively planned as any other branch of study. We feel indeed that religious education can only be justified as a regular part of the education of older boys and girls if at the end of the course they feel that it has included some serious study to which their teachers have given not less thought and skill than to their other studies, and that some part, at least, of the course has demanded that degree of concentration and awakened that interest, which makes even immature minds aware that time has been spent to good purpose.

It is true that, though the number of secondary schools making no provision at all for religious instruction is small, there is a considerable number in which the subject is not included in the time-table of the higher Forms. In some of the latter religious instruction is discontinued in the Sixth Form only; in others it is discontinued in the year in which the School Certificate Examination is taken, or even earlier. It is true, too, that we have been informed that a large number of teachers have shown in recent years unwillingness to teach Scripture. Their disinclination to take part in religious instruction does not, however, necessarily mean that they believe this instruction to be without value. It may indicate, not so much that they are indifferent to this side of education, as that they are uncertain about both its purpose and methodology, and that they are naturally reluctant to teach a subject to which they do not feel that they are qualified to do justice. We do not think, therefore, that this fact should be interpreted as disproving that growing interest in the subject as to which we have already expressed our opinion. Nor does the discontinuance of religious instruction when the Certificate Examination is approaching necessarily argue indifference or hostility to the subject. Scripture is not the

(1) *Report of a Conference held at the Board of Education on November 30th, 1933, and March 20th, 1934, on The Provision of Improved Opportunities for Teachers to equip themselves for giving Religious Instruction* (1934).

only subject to be sacrificed in the fourth and fifth years of the school course to the real or supposed pressure of the examination system. We find no reason to believe that there is any large body of opinion definitely favourable to an entirely secular secondary education. The fact that the number of boys and girls withdrawn from religious instruction is a small minority does not point in that direction. On the contrary the present position seems to indicate that the great majority of parents prefer, no doubt for many different reasons, that their children should continue to receive some kind of religious instruction during their post-primary education.

It is often maintained that the study of the Bible should have a place in the curriculum for its literary value alone. We do not wish to underestimate that value. The English Bible is one of the glories of the literary heritage bequeathed to the English-speaking peoples. For that reason there is much to be said in favour of the inclusion of portions of the Bible in the syllabus of English literature. But it is also true that no boy or girl can be counted as properly educated unless he or she has been made aware of the fact of the existence of a religious interpretation of life. The traditional form which that interpretation has taken in this country is Christian, and the principal justification for giving a place in the curriculum to the study of the Scriptures is that the Bible is the classic book of Christianity and forms the basis of the structure of Christian faith and worship. The content of the Bible has, therefore, inevitably its own dignity and associations. It can neither be treated merely as a part of English literature, nor can it be merged in the general study of history, though its meaning is, in the first instance at least, historically conditioned.

There are, therefore, obvious reasons why many members of the teaching profession do not and cannot regard the study of the Bible merely as one among a number of class-room subjects. This fact does not, however, in our opinion afford the slightest justification for the idea that the teaching of Scripture cannot be as expert and effective as any other teaching. We hold that the Biblical literature contains a body of perfectly intelligible ideas, which can be systematically presented and studied; and that it is possible for a teacher so to approach that literature and present those ideas that the difficulty of appearing to take sides in traditional controversies

may be avoided. Not only is the Bible a unique record of one side of human experience, but its study provides a valuable intellectual discipline and quickens the interest of many young minds.

The approach to the study of Scripture which we have in mind is historical and objective, the temper and the method of the teaching being such that the teacher's primary purpose will have been attained when he or she has made the pupil understand the meaning of the book which is being studied; and by 'meaning' is to be understood the meaning, so far as it can be ascertained, for those who wrote the book and for those for whom it was written. By the word 'objective' we do not mean that teachers of Scripture should confine themselves to literary criticism and the provision of an 'historical' background; nor, certainly, that they should not themselves have a strong sympathy with a religious interpretation of life. It can hardly be disputed that the best teacher is one whose interest in the subject and desire to teach it proceed from religious faith. We recognise, too, that in practice a teacher will often travel beyond the limits which we may have seemed to define, if only in order to answer the questions naturally presented to him by his pupils. But it is one, and in our opinion not the least, advantage of the treatment of the subject which we have indicated, namely, to understand the original meaning of Scripture, that it enables teachers to take a position from which they can most easily and effectively reply to questions raised incidentally by their pupils, as well as explain the historical divergencies in Christian thought, without incurring the suspicion of either insincerity or prejudice—personal or denominational. We hold, too, that Scripture taught with this purpose in view is the best foundation for any other religious education given in the school concurrently or subsequently.

There are three main departments into which Biblical study in schools is likely to fall:—the religious ideas and experiences of Israel, of which the record is to be found in the Old Testament, the life and teaching of Jesus Christ, and the beginning of the Christian Church. Anyone who wishes to teach the Old Testament intelligently to adolescents, and to ensure their grasp of the meaning of the book which they are reading, must possess more than a superficial knowledge of ancient history and Biblical criticism, and be able to explain to his pupils the moral and religious conditions of the world in which Hebrew religion developed. This applies more particularly

to the prophetic literature, but it is true also of the Pentateuch and the historical books. For the teacher of the New Testament a knowledge of Biblical criticism is at least equally necessary, if only because the central ideas of the New Testament grow from Old Testament roots, and can be understood only in this organic relationship. But the teacher will need more than this. The moral teaching of the New Testament is subordinate to its religious affirmations. Theological conceptions are immediately involved in the explanation of the meaning conveyed by the words of the text to those to whom they were originally addressed, and in the questions which will be asked by intelligent and interested pupils. Teachers will require that particular kind of training and experience which will equip them for meeting those issues, and indeed increase their sense of responsibility for facing them with minds unprejudiced and informed.

It follows that if the study of Scripture is to be approached objectively, some increased professional knowledge is needed by the teacher. We hold that the time is past when the teaching of Scripture could be entrusted to any members of a staff who did not object to undertake it, irrespective of some preparatory training.(1) For the kind of teaching which we have in mind good will and enthusiasm, however necessary, are not enough. Just because the content of that teaching touches life at more points than that of any other subject and is so closely related to individual thought and conduct, we hold that Form Masters and Form Mistresses provided they desire to do so should take part in a kind of instruction which may mean so much to their pupils.(2) But we are of the opinion that these teachers, unless they have themselves received some special training, would benefit from the advice, or even the direction, of a specialist colleague, and that especially in the higher forms the actual teaching might with advantage be entrusted to such a specialist. The tendency in secondary schools, so pronounced in the case of other subjects, to make use of the specialist teacher has not on the whole been applied to Scripture, and we believe that the teaching of the Bible has suffered in consequence. Nor can we accept the assumption, still not uncommon, that the

(1) We have in mind in particular the extra-mural courses to which we refer on page 214.

(2) Much as we desire to see the importance of Scripture teaching enhanced, we regard it as essential that liberty of conscience should be preserved for teachers as well as for parents of pupils.

teaching of Scripture must necessarily form part of the duties of a Head Master or Head Mistress who may, or may not, have special interest in the subject. That idea is, partly perhaps, a heritage of the time when Head Masters of Grammar Schools were frequently in Holy Orders and had therefore received a professional training. If, however, Scripture is to be taught as a subject valuable for its own interest and intellectual discipline it requires, to the same extent as any other subject of primary importance, the direction of a specialist teacher.

There is reason indeed to believe that the practice of entrusting the teaching of Scripture to those who have no particular qualifications—and sometimes no desire—for the work has led in many cases, not only to the results which might be expected in the case of any subject treated thus casually, but to others equally unfortunate which arise from the character of this particular study and the teaching traditionally associated with it. We have grave doubts whether in secondary schools taken as a whole the syllabuses of Scripture are as well adapted as those of other subjects to provide coordinated and progressive instruction. It is often asserted that many boys and girls leave their secondary schools without even an elementary knowledge of the Bible, and with little or no respect for the religious instruction which they have received. There may be more than one reason for this; but in part, at least, it may be due to the fact that they have failed to find in those who have instructed them a knowledge of the subject comparable with that possessed by those who have directed the rest of their work. It is likely, too, that the teacher who is dubious of his own capacity to do justice to the subject through lack of knowledge is often the teacher who is most ready to permit the Scripture lesson to be nothing more than an opportunity for ethical exhortation, or even for general discussion. There is sometimes a real need for lessons allocated in the time-table to Scripture to be protected against the intrusion of teaching and discussion which would be at least equally relevant to the matter of other lessons. However desirable or even necessary these may be, it is unfortunate that a recognised time cannot be provided for them inside school hours without causing any curtailment of the Scripture lesson.(1)

We therefore advocate the employment of a specialist teacher of Scripture in every school in which such an appointment can be justified by the number of pupils, and we are

(1) Opportunity for this is provided in the informal periods suggested on p. 189.

encouraged to make this recommendation by what we have been told of the experience of schools in which this arrangement has been tried. We are not advocating that the specialist teacher shall necessarily give the whole of the teaching of Scripture throughout a school. Other members of the staff who are willing to take part in the work may well do so, and we have been assured that the presence of a specialist on the staff does often lead to his or her non-specialist colleagues taking a keener and more intelligent interest in the teaching of the Bible. The function of the specialist is rather to act as the focus for the technical aspects of the subjects, to advise on syllabuses and to represent the academic seriousness of the study of Scripture. In larger schools we envisage the specialist teacher as responsible for part of the Scripture teaching in each block, more particularly in the higher blocks, and, where the work of the school is organised in departments, as holding the same status as other heads of departments. On the other hand we regard it as important that teachers primarily responsible for organising the study of Scripture in a school should not be specialists in the narrow sense that their own teaching has been confined to that subject, or that they have pursued no course of study other than theological at the University. They are all the more likely to be recognised as effective exponents of their own subject if they have had the opportunity to prove themselves proficient in other kinds of teaching.

We recognise that in a number of small schools the provision of a specialist teacher may be difficult. We hope that even in these schools it may often be found possible to arrange for some member of the regular staff, who has the necessary inclination, to take some specialist course of preparation for teaching Scripture. In some cases the possession of a qualification for teaching Scripture as a second subject could be taken into consideration when appointments are made to the staff. In some areas, too, it may be found practicable and desirable for a visiting specialist teacher to be responsible for the Scripture of a group of Grammar Schools. In exceptional cases this may be the right course to meet what is admittedly a difficulty. But Scripture, like any other subject, is commonly at a disadvantage when it is not taught by someone who is a regular member of the staff and therefore in a position to relate it to the work of the school as a whole. It is, moreover, inevitably associated with other influences bearing upon the thought and conduct of boys and girls; and

for this reason alone we should prefer that the responsibility for its direction should not rest on anyone who is not in the fullest sense a member of the school society.

It will be one important function of the specialist teacher to take an active interest in the selection of the books which are used in the classroom, for private reading and for reference. There has been some improvement in recent years, but it is still too often the case that the format and printing of books used in the Scripture lesson compare unfavourably with those of books which boys and girls are obliged or encouraged to read in connexion with other literary subjects.[1] The specialist teacher should also be in a position to secure the provision in the school library of a sufficient number of books bearing on the subject which are suitable for the use of both staff and pupils.

There remains the question how to secure a supply of teachers adequately prepared to teach Scripture in the historical and objective manner which we have advocated. The number of those teachers who in reading for a University degree have devoted one or two years to the study of Biblical and immediately kindred subjects, and who have subsequently passed an examination in those subjects, is likely to be far from sufficient to meet the demand. We regard it of great importance that every possible facility may be provided whereby those who have already proved that they are capable teachers of other subjects may qualify themselves by special preparation to undertake the teaching of Scripture. It is, perhaps, to be expected that the number of women teachers who wish so to qualify themselves will be greater than the number of men if only because for men there is the Christian ministry. We do not believe, however, that there need be any shortage of men able to teach Scripture as intelligently and systematically as they teach other subjects, provided that every facility is given to those who wish to obtain the necessary qualifications. In some cases it may be possible to grant leave of absence to a teacher to enable him or her to devote

[1] See page 21 and pages 29 to 31 of our Report on *Books in Public Elementary Schools* (1928), and also recommendation 25 (*a*) on page 113 of that Report which runs as follows :—

"We suggest that one or more well printed copies of the Bible in large and attractive type and form should be included in each school library, and we recommend that every Elementary School child who can read sufficiently well should be provided with a copy of one or more portions of the Bible, suitable for study, in a similar type and form."

a period of full time study in preparation for the B.D. degree and other diplomas in Theology provided by certain Universities, and for the Archbishop's Diploma.

Furthermore, all reasonable facilities should be afforded to teachers who desire to attend the extra-mural courses of lectures in Divinity which are now organised by various Universities. As regards vacation courses in Divinity, it is desirable that grants in aid should be awarded by Local Education Authorities to defray the whole of the travelling expenses of teachers and a portion, at least, of the fees. We are entirely in accord with that section of the *Report of the Conference on Religious Education* (1934), to which reference has already been made, in which it is stated that " The Conference believe that there is at the present time a strong desire among very many teachers already engaged in the schools for opportunities for further study which would be of value to them in the teaching of Scripture. They wish to draw the attention of the Board of Education, Local Education Authorities, Teachers' Associations and Voluntary Bodies, to the great opportunities which this presents, and to the valuable results which have been secured from such courses."(1)

As a result of that important conference, there has been a very considerable increase in the provision of vacation courses and other academic courses in Divinity, especially in cases where the teachers' organisations have collaborated with the local education authorities and with various voluntary associations in organising suitable lectures and tutorial classes.

The question whether Scripture can and should be examined is one upon which there is a wide diversity of opinion—not least among those who are engaged in teaching it. In so far as the Bible is read for its literary qualities, we believe that the process is directed to a result which cannot be tested by formal examination. It is sufficient to refer to what we say elsewhere in this Report about the examination of English literature as a separate subject.(2) On the other hand, when the teaching of Scripture is historical and objective a written examination may afford a proper test of whether a candidate has acquired an adequate knowledge of the content of what has been read. Moreover, some

(1) *Report of a Conference held at the Board of Education on November 30th, 1933, and March 20th, 1934, on The Provision of Improved Opportunities for Teachers to equip themselves for giving Religious Instruction* (1934), p. 4.

(2) See pp. 174-5; pp. 226-8.

experienced teachers hold the view that, so long as external examinations are of their present importance, Scripture will be regarded as ranking below other subjects unless it is retained as a subject in these examinations and given the same value as other subjects. We feel bound to attach weight to these opinions, but many of us hold that the unique value of the subject is enhanced when it is entirely freed from examination, and the idea of direct or indirect gain or advantage is eliminated. We think that, since the approach to the subject is made by teachers of different experience and different attitudes, the schools should be left free to decide whether the subject should be examined or not. There are cases in which an examination in Scripture may be a valuable test of effective and sympathetic teaching which would be appreciated both by the teacher and the taught, and there are others in which the teachers would feel trammelled by the thought of any examination and the value of their teaching would thereby be lessened. We therefore advocate complete freedom.(1)

Whether the subject in all its aspects be examinable or not, we attach great importance to extending an existing practice whereby Scripture takes its place with the other subjects and activities of the curriculum as a subject for inspection.(2) This opinion assumes that in any system of inspection there will be inspectors sympathetic to the study of the Bible, and recognised as competent to appraise both the content of the lessons and the methods of instruction.

We believe, then, that Scripture, taught with the purpose of securing an accurate understanding of the original and historical meaning of the books which are read, is normally the soundest basis for other religious education in the secondary school. That is not to imply that it is all the religious education which a child requires, or which a school may properly undertake. We realise that there are teachers who believe that religious education, particularly as given to boys and girls who will shortly be leaving school, should deal more directly with the application of Christian principles to the problems—personal and public—with which they will be confronted in adult life. There are others who would probably maintain that the primary purpose of teaching the sacred literature of Christianity is to attach some significance to the

(1) At the moment there is a marked tendency not to present Scripture as an examination subject, but Wales is a notable exception.

(2) Subject to the existing right of the school to say whether it wishes Scripture to be inspected or not.

idea of the Christian faith—meaning by that phrase the belief that the person and teaching of Christ give an interpretation of life, and the will to act on the assumption that that interpretation is the true one. Unless they can feel that they may continually and avowedly try to explain that interpretation and fortify that will, they may prefer to take no part in teaching Scripture. We recognise, therefore, that some Head Masters and Head Mistresses will wish to amplify Scripture lessons of the kind which we have indicated with religious education of a more general kind, the content of which is not, and cannot from its nature be, examinable, and which no more than Scripture teaching can be obligatory. There is no need to emphasise how influential this side of religious education may be in its effect not only on the growth of individual character but on the whole life of a school.

It will be a natural development if religious instruction is often so directed as to add meaning to whatever form of school worship is customary in the school, and if the latter in turn brings fresh interest to the work in the classroom. In any school which provides for daily prayers of a Christian character, with, as is often the case, a lection from the Bible, it is reasonable for those who teach the Bible to make it clear that the religion contained in the New Testament challenges us to faith and worship; and that school prayers are no mere formality, nor a traditional method of promoting corporate spirit, but an acceptance of that challenge. To keep school prayers and religious instruction in entirely separate compartments is to detract from the value of both.

If this objective teaching of Scripture is to be as effective as the other instruction given in the secondary school, we believe that it must be continuous throughout the course. We therefore advocate that provision should be made for this side of a boy's or girl's education in every Form, and that it should not be discontinued on account of the pressure of the School Certificate or any other examination. The time to be allotted to religious education as a whole will depend in part upon whether a school provides only for the teaching of Scripture, or also for religious education of the more general kind. If there is any kind of religious education outside the regular course of Scripture, and if the syllabus of the latter covers more than the bare minimum necessary to secure for it the respect paid to other subjects, the time required can hardly be less than the equivalent of two periods a week.

This does not imply that the time given to different aspects of the work should necessarily be distributed in the same manner at every stage of the course. The distribution of time in the two years preceding the Certificate Examination is likely to be determined by the fact that a school does, or does not, present candidates in Scripture for that examination, and, in the former case, by the character of the syllabus. It will be agreed, both by those who approve and by those who disapprove of the external examination of Scripture, that, if it is to rank with other subjects in the scheme of examination, it must represent a comparable standard of achievement and an adequate body of knowledge. This is equally desirable whether the course leading to the examination is the final course of Scripture to be taken in the school, or whether, as we hope will be increasingly common, the course is preliminary to further Biblical study in the Sixth Form. We believe that it should not be impossible to devise a syllabus of Scripture for examination at the stage of the School Certificate which should be adequate for the purpose of that examination, and yet would not require in the two years preceding the examination more than some two-thirds of the time which we have suggested may be reasonably assigned to Scripture and religious education as a whole.

CHAPTER VI

CERTAIN OTHER SUBJECTS IN WHICH THE COMMITTEE HAVE RECOMMENDED SUBSTANTIAL CHANGES, NAMELY: ENGLISH; CLASSICS; MATHEMATICS; GENERAL SCIENCE

ENGLISH LANGUAGE AND LITERATURE

We have already stated that the curriculum should be developed round an attitude to life and one main core of learning, and that we find this core in what are commonly called the English subjects; and of these subjects it is probably that which is in the narrower sense called 'English' which is most capable of giving a meaning and a unity to the whole course between 11½ and 16. The reading, discussion and reflection which this study provides and stimulates are capable of exercising a wide influence upon the life and outlook of the adolescent, more general and lasting in its effects than that normally exercised by any other subject in the curriculum.

This view is of course already widely held, particularly since the Report of the Departmental Committee on *The Teaching of English in England* (1921); it has found frequent expression both in the words and writings of responsible educationists, and in the rapid progress made in the methods and general attitude of teachers of English in the past 20 years. But, though it would be absurd to claim that English can take the place which French or Latin or Mathematics or Science should have in a balanced curriculum, and still more absurd to decry the necessity for History and Geography, yet we are convinced that English, in the narrower sense, does not yet hold that position in the studies of secondary schools to which it is entitled. For a subject which is in our view of such central importance there seems to be still too much indecision as to the main objective to be achieved; and the Report of the Investigators of the School Certificate Examination, 1931[1], indicates that the teaching of the subject in Grammar Schools does not at present realise to the extent it should some of its essential aims.

We propose therefore to outline what should in our view be the main purposes of this study and some of the general means by which these purposes can be effected, without any

[1] *The School Certificate Examination* (1932). H.M. Stationery Office. pp. 72–3.

detailed discussion of method or syllabus. It is hoped that our reasons for attaching such value to the subject will appear in the course of the following pages.

The first aim of all English teaching should be to enable a child to express clearly, in speech or writing, his own thoughts, and to understand the clearly expressed thoughts of others.(1) This whole process has been summed up in the Report on *The Teaching of English in England* in the word 'Communication'. It is perhaps misleading to divide this single process into its two aspects, 'Comprehension' and 'Expression', since such a division suggests that these two processes can be studied and trained independently, and ignores their incessant and valuable interaction upon each other. Though we must in our brief discussion of this main objective treat of these two aspects of communication separately, we wish to make it clear that this is a convenient and artificial distinction rather than a natural one.

The second objective, which can only be attempted after the first is more or less successfully attained, is the development of the power thus acquired to benefit the child as a social being, and to help him to take his place as a thinking individual and a wise citizen. Ability to communicate with clarity and intelligence has a vocational value which is too evident to need emphasis, particularly for those whose work will be in the world of books and papers, documents and files. But it should also lead to an ease in social relationships, a desire to know facts, and an ability to think clearly, which are essential elements in the education of the citizen of a democracy.

The third and last objective is the training in appreciation of literature. How far this can be taught at all is still a matter for argument. But there is a general agreement that no course in English is complete which does not introduce pupils to the richness and beauty of the literature which is our proudest heritage. Love of reading, joy in the discovery of literary beauty, enlargement of imaginative experience, these are among the most treasured fruits of a sound English education.

It must be assumed that the elements of the art of Communication have been learnt in the primary stage; but it would be idle to pretend that more than a small minority of children have, at the age of 11½, learnt to express themselves

(1) The achievement of this aim is much rarer and much more difficult than is commonly realised, and there is a real necessity both for the careful training of teachers and further research into methods.

clearly or to understand clearly and quickly the straightforward expression of thought by others. The fact that English (of a sort) is the means of communication regularly employed out of school is as much a hindrance as a help. The English of common usage at this stage is slovenly, ungrammatical, and often incomprehensible to a stranger; yet it serves its purpose on all normal occasions, and so makes the child self-satisfied and impatient of attempts to implant a higher standard. It is therefore impossible in Grammar Schools to dispense with the elementary technical instruction in such matters as grammar, spelling and punctuation. Experts are still at variance, and often in direct opposition, as to the part formal teaching of grammar and syntax should play at this stage. We do not propose to discuss this matter in detail; it is probably one of those where each teacher will teach best on his own lines. Bad spelling is now recognised as a disease which submits reluctantly to slow treatment; it is only necessary to draw attention to the value of *prepared* dictation, since more is learnt from learning first and then writing correctly, than from writing a wrong form and then trying to learn the correct one. All that need be said about punctuation is that it should not be treated as a separate science; stops ought not to be 'put in' after a passage is written, but recognised as integral parts of the structure of every sentence, linking and dividing thoughts on paper as spoken thoughts are connected and separated as the voice pauses or runs on. In this connexion it is well to emphasise the importance of the arrangement of words and clauses within a sentence so as best to secure clarity. The same is true of the arrangement of sentences in the paragraph.

Methods of training and testing the power of expression and comprehension in the early years of the secondary course are too many and too varied to be discussed in any detail. Sir Philip Hartog and other investigators have sufficiently discredited the abstract 'essay' at this stage for it to need further discussion here. There should of course be opportunities given for the free exercise of imagination in writing, and the class magazine is the place for the best of such adventures. But for the purpose immediately in view what are needed, in addition to an adequate vocabulary, are clarity, directness, and simplicity of expression, and accuracy and rapidity of comprehension; power of invention, facility, attempts at style, ornament, these are for the moment irrelevant.

It follows that certain rules can be laid down for the teaching of the subject commonly called 'composition' at this stage. In the first place composition should be both oral and written, the former preponderating during the first year or two of the secondary course. Opportunities for oral work can be given in the form of brief prepared lectures, debates, reproduction, discussions and descriptions. All written compositions should be restricted in length, concrete in subject, and, in general, objective in treatment, written with a definite reader in mind (apart from the teacher). Once this discipline has had its effect some attempt should be made at more ambitious forms of expression. Instruction can now be given in planning and executing longer compositions, with an emphasis on the necessity for a clear and logical arrangement of thoughts before these overflow into an essay. These 'schemes' (on the French model[1]) should be more frequently employed and written out with greater care than they are in most cases at present. There should be practice in expanding or 'writing up' a subject from notes or paragraph-headings, as well as in the still more valuable work of précis or compression, and in the study of the structure of chosen examples of English prose. At the same time oral composition will be given greater freedom, until it issues in the speaking of impromptu plays or charades.

Several of the methods suggested above are of use in teaching comprehension as well as expression, since the two cannot (as we have said) be ultimately considered apart. For instance, two of the best ways of teaching comprehension are reproduction, which demands ability to grasp the essence of a story at first hearing, and précis work, which tests the power to extract the essential 'bones' out of a story or correspondence; and since both these forms of instruction can be graded in difficulty they should be freely used throughout the course. But there are other ways too in which comprehension can be trained. The use of anthologies containing passages of good thought or narrative well expressed, both in prose and verse, should be habitual throughout the secondary schools. If the passages are graded in difficulty and sufficiently numerous it should be possible to pass, even within the covers of a single book, from the simplest training in the comprehension of thought to advanced exercises in

[1] For a full discussion of the French methods of teaching composition see especially Ch. III of Sir Philip Hartog's book *The Writing of English* (1907).

appreciation. At the early stage the aim should be simply to induce real understanding of the thought expressed, clear of all misconceptions and preconceptions, objective, simple and exact. It is astonishing both how far astray children will at first go with the simplest material and also how rapidly they can improve. It is not always realised how many of our errors in life are due to our assuming that someone else has said what we wanted or expected him to say and not something quite different. It is as important to receive a clear impression as to give one.

It has been possible to give only the briefest summary of the more familiar methods of instruction in communication; any experienced teacher will realise how much has of necessity been omitted. But it should at least be evident that we believe the main objectives at this stage to be clearness of expression and accuracy of comprehension; it is on these foundations alone that any superstructure can be built. And this is true of other subjects as well as that which we are considering, so much so that it has been said that every teacher should be a teacher of English. Indeed, the work of English teachers would be much lightened if their colleagues were stricter in criticising lack of clarity in argument or verbosity in description.

The Report on *The Teaching of English in England* lays stress (pp. 21–23) on the social value of English studies. The Report points out that, just as the common study of this subject is a unifying element in a school which contains specialists in different arts and sciences, so it should be possible for the spread of a common habit of English teaching to soften the distinctions which separate men and classes in later life. More will be said of this later, in discussing Appreciation; it is sufficient at present to point out how the simple ability to express and understand does in itself remove most of the misconceptions which separate one man from another. The Report also lays emphasis on the part that speech-training should play in the abolition of class barriers. Certainly it would be an advantage if all our children could learn the same English speech, though we agree with that Report in recommending the preservation of true dialect, as distinct from affected or debased forms which have no roots in history. Teachers are everywhere tackling this problem, though they are not to be envied their struggle against the natural conservatism of childhood allied to the popularisation of the infectious accents of Hollywood. The

pervading influences of the hoarding, the cinema, and a large section of the public press, are (in this respect as in others) subtly corrupting the taste and habits of the rising generation.

Probably the greatest social value of a good English training is the feeling of self-confidence which follows it, just as its greatest vocational value is the ability to write a clear memorandum and extract the gist of a lengthy document. These two objectives are hardly ever consciously present in the mind of the teacher, but they are steadily more fully attained as the child passes from the simple to the more complex forms both of expression and comprehension. A still more important end is being achieved if clearness of thought is growing at the same rate as clearness of expression, and if practice in comprehension is leading to a ready distinction between the essential and the otiose, the sincere and the affected, the true and the false. Here the wise teacher will be aware of his responsibility and opportunity, and will train his pupils to recognise and allow for their own prejudices and those of others; to speak and write dispassionately when a matter is *sub judice*; to make sure of their facts before they launch out on their crusade; to despise specious or selfish argument; to distinguish between principles and slogans; to understand, if they can, the mind behind the written word, the man behind the book; and so, in the end, to understand their own emotions and reactions as well as experiencing them.

This is all going on wherever more advanced instruction in communication is being faithfully given. At times the method will be informal, and discussion and argument will be suffered to range where they will. At others there will be set lectures, or it may be a class debate, in which the 15-year-old has to summon all his resources to hold his own and forgets altogether that he is being educated. Forced to verify his own (or his newspaper's) dogmatic assertions, he will be driven to one of the two right uses of books, to ascertain the facts; faced with damaging assertions by his opponents, he will set his wits to work to find flaws in the argument; and all the time the teacher, in the background, guides and controls the discussion, intervening only to rob the argumentative bully of his false and wordy triumph. What better training could we wish for the future citizen of a democratic state, and what better defence against the assaults and seductions of the popular press?

We have said that the third main objective of the English course is the appreciation of English literature. The

deliberate attempt to educate the powers of appreciation and criticism should probably be deferred to the last year or two of the course, though naturally there is from the beginning education of this kind going on. Just as it is impossible to insist on the clear expression of thought without encouraging clear thinking, so no good teacher can handle even the simplest piece of genuine literature without his pupils learning to enjoy as well as to understand it. What we may perhaps call the 'Anthology lesson' will be a dull affair if some advance is not made, even from the start, in seeing beauty as well as in comprehending meaning. But at the later stage there should be a more direct attempt made to encourage the desire to read, not now for information merely, still less as a way of passing the time, but to widen the limits of imaginative experience, and to increase the ability to enjoy literary power and beauty. And while attempting, in ways which will be suggested below, to widen the range of his pupils' reading the teacher should also be training their power to go below the surface of the written page, to appreciate, to criticise, to analyse thought and style, to distinguish gold from tinsel.(1) In short the course at this stage must be both extensive and intensive.

The question of the external examination of English literature will be discussed below; we have already suggested that it is undesirable.(2) But we have no doubt about the value of detailed study, in the right hands, of an English 'classic,' whether prose or verse. By 'detailed study' we mean first and foremost a real knowledge of the text, considerable parts of which (especially in the case of plays and poems) should be learnt by heart; but we also think that there is much value in the right kind of discussion and commentary. If the external examination disappears, the teacher will be free to comment and elucidate with only one purpose in view, and that not the ultimate satisfying of examiners. Such a training in careful interpretation and insight will stand a child in good stead in his own reading, both at the time and later. But if he is to profit to the full from the English course

(1) The technique of 'appreciation', which is a fascinating one, cannot be discussed here. In general, criticism and appreciation should go hand in hand (or there will be no firm foundation for the latter), and a reasoned appraisement of the merits of an author is more valuable than unbalanced adulation or petty fault-finding. A good approach to this objective is the comparison of two or more closely similar or strongly contrasted passages.

(2) See p. 175.

it is of course not enough for him to have studied, as a whole and in detail, certain select masterpieces. We may not be convinced of the danger of 'tasting the Pierian spring' but certainly it is our aim that all English men and women should of their own will 'drink deep' of it.

This brings us to the question of reading, which lies at the root of the whole matter. Here the teacher can assist but not compel. It goes without saying that every school should have a library, and small class libraries are often an additional help. The library should not merely contain books; there should be comfortable chairs, lists of books recommended, and someone available to help and advise. There is often more real education going on in a good school's library than in any of its classrooms. Here boys and girls can make their own voyages of discovery and dig up their own treasures. Any knowledge or beauty which we have found by our own efforts is worth more than all the riches handed out to us by our teachers; and there are few of us who are not still grateful to the wise man or woman who first gave us the taste for such adventures. The reading habit can also be induced by 'silent reading' periods in school hours, where books of the child's own choice can be read, with at first no censorship by the teacher, only a subtle forcing up of the standard by comment and encouragement. To impose preferences or dictate judgments is dangerous; but children are imitative by nature, and if the teacher reveals his own delight in a book they will often be impelled to try and share it. And much can be done by occasional reading aloud, without comment, of a short poem or prose passage which the reader obviously enjoys. In short a good teacher can do almost anything to induce a love of reading except teach it.

The last year's work in appreciation should include two additional exercises. First there should be much encouragement of, and some insistence on, the writing of original verse; this not in the hope to create poets, nor so much as a training in expression, but to give that appreciation of the art of poetry which can only be felt (in any art or skill) by one who has tried and failed to do as well himself. Secondly there should be opportunities for unguided full-length *critiques* of poems or prose passages by unspecified authors, to be followed not only by individual comments on the criticisms made, but by a joint class discussion of the passages selected. There are few exercises so valuable, and few so humiliating to intellectual

pride. It has been said that a man who has learnt to love either a poem or a person he at first disliked has gone far on the road to salvation.

It is worth adding a note on the value of dramatic performances as an aid to appreciation. The drama has now a sure footing in all schools, and its usefulness in cultivating self-confidence and good speech and developing initiative need not be stressed here. But it also has its place as one of the best means of revealing the strength and beauty of great literature. This is of course primarily true of the actual performers; it must be difficult to play a part in one of the great plays of Shakespeare without abiding profit. But it is also, for the school audience, one of the surest ways of communicating the secret of great literature.

The value to the individual in later life of an appreciation and love of literature is generally recognised, and is becoming more marked as the amount of available leisure time increases. But an added argument in its favour is the bond it can create between all who speak the same language, whatever their circumstances may be; it is part of the common inheritance which helps to build up a national consciousness and to forge invisible links of union between those who at first meeting may think they have little in common. Moreover, in days when literary standards are threatened on every side, there are few safeguards stronger than a widespread devotion to those great writers who "spoil our taste for twitterings."

How far will external examination of English help or hinder the teacher at this stage? It seems clear that a fundamental distinction can be made between the English teaching which is examinable and that which is not. "Examinations are necessary to test efficiency, and a great many of them do not test it at the present moment; but I have long believed that when examinations attempt to test culture, which is sensitive and individual, they tend to kill the plant which they wish to grow." (1) Any teacher of English literature will have his own methods of ensuring that his pupils are active and not merely passive participators in their joint enterprise; and there may be no valid objection to internal examination of this or any other subject. But we believe that external examination of set books at this stage is undesirable, and has in the past done little good and much

(1) Sir Philip Hartog, *Secondary School Examinations and the Curricula of Secondary Schools* (1937).

harm. However, the same objections do not hold good when we are considering the other, and more immediate, aim of English teaching. We can and should 'test efficiency,' and we probably should test it more thoroughly than any examining body does at present. This is not the place for detailed suggestions; but we think that the compulsory test in English should include exercises in writing clear and accurate English with definite objects in view (e.g., a letter, a report, a description, the elaboration of a set of notes, the interpretation of a series of pictures); a précis, well selected and not too long; and questions designed to test the comprehension of given passages of prose and verse.

We are well aware that none of our suggestions, whether as to ultimate aims or general methods, is original, and that many teachers have for years been practising and in some cases gone beyond all that is here put forward. But we feel that, even where the importance of English teaching is fully recognised, practice still lags behind precept. This is largely due to the inadequate supply of well-qualified teachers. There are few subjects which depend so directly upon the personality of the teachers concerned. A poor method will serve if a good teacher uses it; but the best possible methods of English teaching will fail in unqualified hands. The qualifications required are not only those that are evidenced by the possession of a good university degree in English, though this is a sound foundation. It is important to secure such teachers on the staff of a school, for they can render great service, not only by their own example, but by putting their knowledge and experience at the disposal of their colleagues. But culture, by which we mean width of sympathies and a receptiveness to beauty, is also important, and this is often possessed to a marked extent by teachers who have taken their degree in classics or in other literary subjects. It should be more clearly realised that these may often make excellent teachers of English. Knowledge and culture, however, by themselves may easily prove ineffective unless they are accompanied by skill in teaching, and much can be done for the right teaching of English Language in the earlier years of the course by well-informed and more definite instruction in University Training Departments and Teachers' Training Colleges.

But for the right teaching of literature something more is required, which no training can supply. This quality is sincerity; a belief in the value of English literature for its

own sake, and a real love of its finest manifestations. This belief and this love can, like religion, be "caught but not taught." They are revealed not by easy raptures or didactic exhortation or fervent and extravagant expression, but by a kind of inward glow which warms all those who come in contact with it. Such teachers were once rare, but they are multiplying by a natural process of infection. If they can be given the encouragement of a suitable technical training, and freedom from the shackles of external examination, they may yet succeed in making the normal citizen of this country conscious and proud of his unequalled literary heritage.

CLASSICS

A.—LATIN

We have recommended above that all pupils in Grammar Schools who show linguistic taste or aptitude should have the opportunity of learning two languages other than their own, and that one of these languages should be Latin, unless the special circumstances of the school make it desirable to choose another language. We have also recommended that the second of these languages should be begun about a year later than the first. This means that in Grammar Schools pupils will begin Latin at latest between the ages of 12 and 13, and will have at least about four years before they sit for the School Certificate Examination, and at least six years before competing for university scholarships in Latin.

In the past it has generally been assumed that a longer period is necessary if pupils are to reach a high standard of performance in Latin studies, and it is still usual in the Preparatory Schools from which the Public Schools draw the majority of their pupils to begin Latin about the age of eight or nine.[1] This assumption is now challenged, and not least by a growing number of teachers of Latin themselves. It is claimed, and in our opinion rightly claimed, that the traditional methods of teaching Latin are mistaken, and that by the adoption of a different method of approach and a clearer perception of the aims of linguistic study, it is not only possible to reach a high standard of performance, but also to give the pupils an earlier belief in the value of what they are learning.

[1] There are signs that the practice of the Preparatory Schools may be modified in a not too distant future.

The traditional methods of teaching Latin (and indeed any language) have concentrated on the formal study of grammar, and have attempted to carry simultaneously the powers of reading and of writing Latin to an equal level for all pupils. The preliminary stages are frequently given up to formal and abstract grammar, and the content of the grammar is overloaded with variations of such rare occurrence that it may be years before the pupil meets with them in his reading. The amount of Latin actually read in the earlier stages is very small, and the vocabulary acquired very limited, while the words and phrases read convey very little to the pupil because he has only faint ideas of what they represent. The conversion of English into Latin begins as soon as, and sometimes before, the conversion of Latin into English, and the sentences to be put into Latin are often of the same difficulty as those to be translated into English. In order to secure proficiency in turning English into Latin, great stress is placed on syntactical rules, with the result that the whole process becomes rather like an exercise in algebra.

We have no intention of depreciating the value of linguistic study, but we believe that the traditional methods of this study are fundamentally wrong. In the emphasis which its exponents lay on formal and abstract grammar, they are apt to lose sight of the fact that language is not a series of formulae, but a living function of the mind whereby it expresses living ideas; and hence they are apt to destroy the pupil's interest both in the ideas, and in the method of expressing them.

More serious still from an educational point of view, the traditional method of linguistic study tends to develop a habit of mind which asks, not "How can I best express this idea?", but "What formula am I expected to use here?": in other words, not an independent exercise of the intelligence and judgment, but a submission of these to an authority imposed wholly from without. What is needed in educational method to-day is a reconciliation between two methods and aims. The first requires pupils to master laws and rules dogmatically stated, and then to apply or watch their application to phenomena or examples; its aim is the sureness that comes from obedience to system or authority. The second invites pupils to collect and observe phenomena, to study relations and to formulate laws; its aim is the independence which comes from personal search and reasoning.

Both methods and aims must find a place in education; by their reconciliation unthinking obedience to authority or law gives place to the self-discipline which comes from understanding of the authority or the law. To this reconciliation linguistic study, properly conceived, holds an ideal key, for language provides material for inference and the formulation of laws which is comparable with that produced in other fields, e.g., the field of scientific phenomena, and, in comparison with science, it has the added merit that its material is not inanimate nature, but the workings of the human mind itself. And so, while in any study there must be correct observance of usage and obedience to rule, rule becomes less arbitrary if it has been observed and studied by the pupil before it is imposed upon him. To meet, in the course of reading, several instances of a usage, to note and compare them in their contexts, is half way to understanding and accepting and employing that usage; after the instances comes the formulation of the law as the culmination of the whole process. Not that the pupils can 'induce' the whole syntax of a language: but they can go some short distance in such a method, and in meeting authority part way, they view it more intelligently and instead of accepting it as imposed upon them, they help to impose it upon themselves, and blind discipline becomes intelligent self-discipline.

Latin, like every other language, has two aspects. On the one hand it is used to convey a meaning, on the other it conveys that meaning in a particular way, and the study of Latin in schools is concerned with both aspects. Through the ideas that are expressed we learn much about the Roman people, their problems, their interests, their ideals, their actions. Through the manner in which the ideas are expressed we learn the peculiar texture of the Roman mind, how emphasis was secured by word-order, and how a practical concrete-minded people achieved clarity of statement. Both aspects are also important in relation to English studies. The contrast between Latin with its inflective grammar, its synthetic structure and explicit idiom, and English with its non-inflective grammar, its loose structure and allusive idiom, is at least as suggestive and valuable as the contrast between the social and political circumstances of Rome and modern Britain. It is by constant comparison between Roman and British ideas, and between Latin and English methods of expression, that boys and girls will learn best to appreciate Latin as a language.

This involves a much wider reading of Latin all through the course than has been usual with the traditional methods. We believe that the teaching should be based on the reading of Latin and the close and intelligent study of the live word functioning in a live context, that the grammar taught should be simplified and rare irregularities left until they occur in the course of reading, and that the conversion of English into Latin should not be attempted too soon. And in all this, there must be no less a demand for effort and certainty of knowledge than has been made heretofore.

It is common experience that boys and girls work better when they have some idea of the bearing of their studies and can link them on to their growing experience. We believe that long before they are to begin Latin, and even if they are never going to learn it, they should be given experience of some of the ways in which Rome and its language have affected their environment. Many of the legends of early Rome (and Greece), and the stories of many of its heroes, are in fact part of our national cultural tradition to which all children should be introduced. Through early familiarity with these, through pictures and antiquities, through the surviving traces of the Roman occupation of Britain—the Wall, the town, the villa and the road—and through the Latin element in English as seen in such common words as street, camp, cheese, butter, pepper, rose, minster, candle, mile and inch, children can be made aware of ancient Rome, its language, and its contribution to civilisation, and can be given an experience which later studies will enrich, illuminate and extend. And we believe that the evidence of these homely contacts with Rome and Latin will be far more fruitful in giving this experience than any early and self-conscious treatment of the 'legacy of Rome.'

We have said above that the teaching of Latin should be based on the reading of Latin, and that linguistic training should be founded on the close and intelligent study of the live word functioning in a live context. It remains for us to show how this can be carried out in practice.

In the early stages (which may be taken as roughly covering the first two years of Latin), the *reading of Latin* should occupy the chief place, the reading matter being 'made up' Latin in the very earliest stages which will be replaced as early as possible by suitably simplified passages from Latin authors, chosen primarily as illustrative of Roman life and

custom. The pupils should get on to this reading at once, and read as much as possible so as to get the 'feel' of the language. This means that a minimum of grammar should be taught at first, but the grammar as seen at work in the passages read should be thoroughly known. Matters of syntax should be taken as they occur without first being formalised into an ordered system. Every effort should be made to ensure a steady increase in vocabulary throughout the whole course, and in this connexion it is important that pupils should have passages read aloud to them, should themselves read aloud passages which they understand, and should be trained to carry in the head and to repeat short phrases in Latin without wishing to see them first written on paper. Writing of Latin should not be attempted too soon, it should always be based on the matter read, dealing with the ideas, vocabulary and constructions occurring in that matter, it should be continuous rather than the writing of isolated sentences, and it should always consist of less difficult matter than the Latin which has been read. Throughout there should be continual comparison with English methods of expression: as we have said already, if pupils are to appreciate Latin as a language, they should be constantly contrasting it with English. Probably something like half the time spent at present in translating English into Latin can be saved by this procedure, and the time thus saved will be most profitably filled by increasing the time spent in reading Latin.

If the language is to mean anything to the pupils, they must know something of the things for which the words stand; for instance the word *domus* should call up the image of a Roman house, not a modern home. This means that pupils need some study of antiquities, especially through pictures, and some knowledge of Roman life. We believe that this knowledge will be most vital if it is gained incidentally and naturally in connexion with their reading, and that the use of a manual of Roman life or history at this stage is not only unnecessary but likely to become over-elaborated, formalised and dissociated from the books read. If the matter of the books read at this stage is carefully chosen to illustrate Roman life and thought, we believe that it will provide sufficient matter for the moment, and that the pupils will make the first steps towards a vivid understanding of the social, political and historical significance of Latin literature. If the reading material is suitable, very few words from the teacher will give unity to the incidental treatment of the subject-matter.

The work of the next two years (in Grammar Schools up to the School Certificate Examination) should, we think, continue on similar lines, but a wider selection of Latin authors of increasing difficulty of vocabulary or of ideas will be read. This does not necessarily mean the reading of a complete book of an author, a single book of Caesar or a single oration of Cicero. It may often be more useful for a realisation of the achievement of an author or of his contribution to Latin literature, to select fairly lengthy passages from his different works. Thus in reading Caesar, his description of his first expedition to Britain might well be supplemented by his account of the events leading up to the siege of Alesia and including the siege itself. Due attention should be paid to the rendering of Latin into idiomatic English, by no means an easy task. We look to these years also for a wider reading of authors and works chosen for their value in illustration of Roman life, thought, method and achievement.(1) In this way the knowledge of Roman life and thought obtained in outline in the earlier stages will be filled in and consolidated again through a first-hand contact with what the Romans themselves wrote. Some teachers may prefer to devote a few lessons in succession to Roman history as a whole, or to particular aspects of Roman life, and we have been told of successful teaching in this way; we believe that it will be possible to find time for this, though we think that such a course will gain in value the more it is related to the concurrent reading of original authorities.

In all that we have said above, we have primarily had in mind the needs of the ordinary pupil who is not likely to pursue Latin studies after he leaves school. But, as we have said in a previous section of this Report(2), we are confident that what is right for the ordinary pupil up to the age of 16, is also right, and indeed the best preparation, for the pupil who is going on to higher studies in a University. We believe also that it is equally right for pupils in Preparatory Schools.

We realise that our suggestions will necessarily involve changes in the School Certificate Examination, e.g., that grammatical questions and exercises in composition should be strictly related to the passages set in translation, or to

(1) Some passages of mediaeval and renascence prose, and some Latin hymns, might well be shown to pupils to give them an idea of the part which Latin has played in history.

(2) See p. 168–9 and xxiii.

the authors read for the examination, but we refrain from making definite suggestions as our main concern is with the methods of the schools. But there is one thing we must say. In our suggestions we have endeavoured to make it possible for pupils to secure a better knowledge of Roman life and history in close connexion with a first-hand acquaintance with a wider range of Latin literature. We do not think that that knowledge should be examined otherwise than under the conditions through which it was gained. Questions on the historical or social bearing of passages in the reading of the pupil seem to us admissible; questions about Roman history, institutions or manners which are unrelated to his actual reading, will inevitably distort and injure the aims which we have tried to expound.

B.—GREEK

We would welcome any measure which might encourage the study of Greek by pupils in the third and following years of the grammar school course, and we regret that the number of those who are actually studying Greek at present is not larger.[1] We hope that many pupils of linguistic aptitude who are capable of studying a third foreign language (for whom we have made provision in our specimen time-table on p. 187, under the heading Z) will choose Greek as that language; and all those who hope to go on to an advanced course in Classics after the School Certificate Examination will naturally choose Greek.

But it is not necessary to elaborate here views upon the teaching of Greek. The need for change is not so great as in Latin; for, though the teaching of grammar and composition unrelated to reading is undoubtedly to be found in schools, on the whole the approach to reading is more rapid than in Latin, and, apart from a general recommendation that pupils should read Greek authors at a very early stage in their Greek studies, we would not wish to make any special application of our observations on Latin to the teaching of Greek. We think that changes in the teaching of Latin are likely to affect indirectly the teaching of Greek, and teachers, whether of English or Latin or Greek, will no doubt take whatever opportunity they can to make sure that Greek myths are not neglected at some stage of the pupil's education,

[1] In the years 1933–35, less than 3·5 per cent. of the candidates taking the School Certificate Examination offered Greek, as compared with 41·5 per cent. offering Latin and 95·5 per cent. offering French.

and to impart as much of the genius of the Greek spirit as they may. For, though knowledge and understanding of Greek art, literature and thought are more likely to come after the age of 16 than before, something can be done by incidental treatment in Greek or other lessons to give pupils some idea of the Greek view of life.

MATHEMATICS

We have said above that we believe that Mathematics should be taught as Art and Music and Physical Science are taught because it is one of the main lines which the creative spirit of man has followed in its development, and that if mathematics is taught in this way it will no longer be necessary to give the number of hours to the subject that are generally assumed to be necessary.(1) It remains for us to explain and justify these conclusions.

The broad principle which in our opinion should determine the lines of the mathematical teaching in schools has been admirably stated as follows:—"Mathematical truths always have two sides or aspects. With the one they face and have contact with the world of outer realities lying in time and space. With the other they face and have relations with one another. Thus the fact that equiangular triangles have proportional sides enables me to determine by drawing or calculation the height of an unscalable mountain peak 20 miles away. This is the first or outer aspect of that particular mathematical truth. On the other hand, I can deduce the truth itself with complete certainty from the assumed properties of congruent triangles. This is its second or inner aspect. The history of mathematics is a tale of ever-widening development on both these sides. From its dim beginnings by the Euphrates and the Nile mathematics has been on the one hand a means by which man has constantly increased his understanding of his environment and his power of manipulating it, and on the other hand a body of pure ideas, slowly growing and consolidating into a noble rational structure. Progress has brought about, and, indeed, has required, division of labour. A Lagrange or a Clerk Maxwell is chiefly concerned to enlarge the outer dominion of mathematics over

(1) An examination of a large number of school time-tables shows that Mathematics stands easily first in the amount of time allotted to it, and that it is usual to give from five to seven periods per week to Mathematics, while some schools give as many as nine periods.

matter; a Gauss or a Cantor seeks rather to perfect and extend the inner realm of order among mathematical ideas themselves. But these different currents of progress must not be thought of as independent streams. One has never existed and probably never will exist apart from the other. The view that they represent wholly distinct forms of intellectual activity is partial, unhistorical, and unphilosophical. A more serious charge against it is that it has produced an infinite amount of harm in the teaching of mathematics.

"Our purpose in teaching mathematics in school should be to enable the pupil to realise, at least in an elementary way, this two-fold significance of mathematical progress. A person, to be really 'educated', should have been taught the importance of mathematics as an instrument of material conquests and of social organisation, and should be able to appreciate the value and significance of an ordered system of mathematical ideas. There is no need to add that mathematical instruction should also aim at 'disciplining his mind' or giving him 'mental training.' So far as the ideals intended by these phrases are sound they are comprehended in the wider purpose already stated. Nor should we add a clause to safeguard the interests of those who are to enter the mathematical professions. The treatment of the subject prescribed by our principle is precisely the one which best supplies their special needs."(1)

It is unfortunate that the mathematical teaching in Grammar Schools has always tended to concentrate on the second of these aspects, and to pay far more attention to the logical arrangement and development of mathematical ideas in the abstract than to the utility of these ideas in actual life. Though ultimately we must classify mathematics as an abstract science, in teaching it in schools it is more important to think of it simply as a science, and to treat it as a science, following the same inductive treatment that we adopt in the case of other sciences. This is the natural and historical method, for mathematics arose from the necessities which men experienced in such practical affairs as required counting, the measurement of time, the determination of direction, and in the problems of the builder and sailor. Throughout the ages renewed vigour has always come to mathematics by the tightening of its touch with the business of everyday life, and every advance has been heralded by the appearance of a new

(1) Nunn: *The Teaching of Algebra* (1914), pp. 16–17.

practical problem occasioned by new human activities, for which the existing corpus of mathematical ideas and methods could provide no adequate solution.

One result of this tendency in teaching is that subdivision of mathematics into different branches or subjects of study which has often been criticised, but still remains implicit both in the teaching and in the examinations for which pupils are prepared. We have already(1) deplored this separation of branches as distorting the characteristic architecture of mathematics. That the professional mathematician, more interested in the growth of his subject and the improvement of its technique, should find it most effective to develop a special group of allied topics by themselves, is only natural, but to present a branch of mathematics to the beginner with all its consequent formal elaboration of technique and divorced from other branches, is surely a mistake. It means on the one hand that important mathematical ideas are presented piecemeal and in so narrow a field that the pupil's conception of them lacks clarity. Thus, to take a simple example, the important ideas of ratio and proportion are usually first developed in arithmetic where their application is most limited, next developed in algebra where the treatment is almost entirely abstract, and only at long last in geometry where their utility first becomes really evident. How great would be the pupil's gain in clarity if these ideas were developed in all these fields at one time! On the other hand, it obscures the vital relationships of different branches, and postpones the beginnings of branches of great practical power so late that many pupils leave school before they reach them. Recognition of the utility of expressions for the tangent, sine and cosine of an angle emerges from very early applications of arithmetic to interesting geometrical problems, and as soon as the symbols for the trigonometrical ratios are found capable of use in a formula, they should be added to the vocabulary of algebra, and their subsequent development treated as a feature of algebra on the same footing as π or x^n. In the same way we hold that the ideas of the calculus, both differential and integral, should be reached through the graph and through the course in algebraical methods before the majority of pupils leave school, and that the mathematical ideas or topics which are included in the school course of study should be deliberately selected to make this possible.

(1) See p. 160.

We believe accordingly that the right way to introduce young pupils to mathematics is not to teach arithmetic, algebra, geometry, trigonometry, etc., as separate branches or facets, each with its own technical apparatus and methods, but to treat mathematics as a science in which the topics are chosen so as to develop a grasp of mathematical ideas, and that these topics should be suggested and introduced by the examination of practical questions which in their day have been of urgent interest and utility to man in his affairs. If these ideas are developed in their historical sequence and setting, we believe that they will be given a human value and meaning for pupils, and that pupils will acquire that sense of the purposefulness of mathematics without which it may so easily become little more than a dead language to many boys and girls. As we have said above(1) the 'problem method' should be the standard method of procedure in all early mathematical teaching.

(v) Every mathematical idea develops its own appropriate tools, and every tool possesses its own technique. The expert in mathematics is necessarily a technician with a mastery of his tools. It is an essential part of the teaching in schools to equip its pupils with mathematical tools, and to give them sufficient practice with each so that they may handle them easily. Some of these tools are designed for use with a particular material—arithmetic, geometry, etc.—and it is obvious that pupils must for a time specialise in the use of a particular tool. Tools, however, become obsolete and better ones take their place; it has been well said that every advance in mathematics has been accompanied by the invention of new tools and by the liquidation of clumsier ones which have served their purpose.(2) There is little profit in spending much time in perfecting the command of a tool which will be rarely used in later years, and it is a mistake to delay the introduction of the newer and better tool which has replaced it. It is still usual to require a high standard of expertness in simple multiplication and division before the use of logarithm tables or the slide-rule is permitted in the mathematical lesson, though no craftsman would insist on proficiency in the use of the mediaeval bow-string lathe before allowing the use of the modern foot or power-driven lathe that has taken its place. The assumption would seem to be that pupils must understand the underlying principle of the new tool before

(1) See p. 163.

(2) cf. L. Hogben: *Mathematics for the Million* (1936), p. 26..

they use it. Few people would buy wireless sets if it were a condition of sale that they understood the scientific principles of their working. Confidence in the use and value of a tool comes, not from a knowledge of the principles of its construction, but from the ease and success with which it does the work which it is called upon to do. There is no need to postpone the use of logarithm and other mathematical tables until the principles of their construction have been taught, and we believe that the regular use of these tables, the slide-rule and the graph in the solution of real problems should begin earlier in schools than has been usual, and that they should be more systematically used.

Preoccupation with the mastery of particular tools, rather than mastery of the ideas for which they were devised, is responsible for another practice which we regard as mistaken. There are still examinations which set papers in particular branches of mathematics in which the conditions are limited to the use of tools peculiar to that branch. It is the mark of the technician that he knows the capabilities of all his tools. Pupils, almost from the start, should have complete liberty to choose the tool they prefer for a particular purpose, whether it be an algebraical or geometrical tool for a problem in number, or an arithmetical or algebraical tool for a problem in geometry.

In our Report on *The Primary School*[1] we outlined the topics which we recommended should be taught in these schools. In general, the Grammar School may reasonably expect that boys and girls on admission at the age of 11 are able to deal competently with the addition, subtraction, multiplication and division of whole numbers, money, lengths, times, weights, and capacities and with the process of simple reduction, provided the quantities involved are not unduly large or complex; with vulgar fractions, provided the denominators are small; with the mensuration of rectangles and cuboids; with simple problems involving any of the foregoing processes. They will also have been introduced to the decimal notation, be able to add and subtract decimal fractions, and know the meaning of a percentage.[2]

The first objective of the Grammar School will be the consolidation of this knowledge and its extension to decimals. For a short time this may occupy all the available time, but

[1] *The Primary School* (1931), pp. 178–82.

[2] See Board of Education: Educational Pamphlet No. 101; *Senior School Mathematics* (1934), pp. 10–11.

quite early the teaching should proceed to the introduction of new mathematical ideas or topics and spend some time in the development of each in turn. There are three ideas which claim precedence, not only because they arise naturally out of attempts to apply mathematical ideas to practical problems, but also because they are the necessary preliminary to other ideas that will be developed later. These are :—

(*a*) The use of algebra as a symbolic language specially adapted for making statements of a numerical kind about matters with which the pupils are already more or less familiar, or, in other words, the use of the *formula* and the manipulation of the formula.[1] In the course of this manipulation, the arithmetical processes employed by the pupils for non-directed number will be extended to algebra.

(*b*) The clarification of spacial ideas which is the theme of *geometry*, through problems involving the determination of position and direction[2], and through questions of shape and size suggested by observation, handling and measurement of objects of regular shape, by the dimensioned sketch, the plan to scale and the construction of models, in the course of which the pupil will learn the use of the ordinary geometrical tools. The study of the cube, cylinder and sphere will make clear what mathematicians mean by surface, ruled surface and plane. Constructive work with strip-wood will establish the importance of the triangle in giving rigidity of shape, and suggest the importance of further study of triangles. Two other ideas should also be developed early, that of symmetry of form and of sameness of shape or similarity.

(*c*) The use of the *graph* as possessing something of the nature of a pictorial formula and as an important instrument of analysis and generalisation of which much use will be made later.

We do not propose to deal in detail with the further content of the course up to about the age of 16, since we have already indicated sufficiently the nature of the course which we should like to see adopted. The course will not aim at completeness in a limited sphere, it will not pursue the mastery

[1] It is of fundamental importance that from the start pupils should be trained always to associate the formula and the result of any manipulation of the formula with the realities for which it stands, and the teaching should constantly refer back to these realities.

[2] These problems will naturally lead to a description, and possibly to the use, of the tools employed by craftsmen in their work, e.g., the spirit-level and plumbline.

of technique beyond what is required for use, but will endeavour in its choice of topics and ideas to show how man has faced and solved problems the solution of which was vital to his progress, and will take care to introduce the pupil to the tools which are most useful for the problems of today. It will ignore many topics which are still included in text-books but have little value for any except the professional mathematician, and not always for him. But trigonometry and the calculus will no longer be sealed books for the majority of pupils in the schools.

We recognise that our proposals mean that much greater attention will be given to that side of mathematics which faces and has contact with the world of outer realities in time and space than is usually given in schools. This we regard as a vital necessity for the well-being of the subject. But we are also confident that our proposals will conduce to a much better understanding of mathematics as an ordered system of ideas than is possible under the present procedure. Except in geometry, few text-books, and probably few teachers, explain or attempt to justify the order in which they introduce different topics, and there is no evident principle behind an order of algebraical topics in which 'ratio and proportion' follows 'the solution of quadratic equations' and is followed by 'the progressions.' When ideas are introduced in their historical setting it is possible to see how one idea grows out of other ideas in response to a realised want, and how ideas are fitted together and contribute to the gradual growth of a living structure. In one direction alone do we contemplate a lower standard than what is normal today, and that is in the ability to manipulate long and complicated algebraical and trigonometrical expressions and elaborate exercises in geometry. But this we contemplate with equanimity, recognising that there is already a consensus of opinion among teachers that this facility is only appropriate to the professional mathematician. The pupil with natural gifts for mathematics will have time and opportunity to acquire a greater measure of this skill than his less gifted fellows, while following a common course.

A few remarks on the traditional branches of mathematics may be added.

In the early stages of arithmetic, the main aim is to secure exactness when working with exact numbers. In later arithmetic where the data are often only approximate, the aim should be to secure the utmost reliable information from

approximate data. Text-books often stress the inverse of this: given exact data, find an approximate answer. Many of the commercial rules in the books are opposed to modern commercial practice; if included in the general course, the commercial methods should be adopted. Some simple treatment of statistics is desirable towards the end of the course.

In algebra far too much attention is given to the solution of equations; if equations are treated as examples in the change of subject in a formula, they will lose much of their triviality, and considerable time can be saved for more fruitful work. Pupils too often are introduced to graphs by examples which they can do more easily in other ways instead of by examples which they cannot work, and so fail to realise the value of the graph as a tool. Both algebra and trigonometry are clogged with exercises in pure technique of little practical interest or value.

Geometry is still dominated by the notion that it should be a deductive science, and by the use of a form of argument which is different from that employed in the sciences or in actual life. Only very few of the 'propositions' usually learnt have any importance except for the development of a logical sequence, and a drastic reduction in the number taught would leave time for more attention to solid geometry with a consequent improvement in the power of visualising a third dimension.

We think that we have said sufficient to show how the amount of time now given to mathematics may be reduced without loss to the value of the subject. We realise that there are serious difficulties in carrying our proposals to effect, both in finding teachers who are willing to abandon the traditional methods in which they have been brought up, and in the requirements of existing examinations. But we are convinced that a reform in mathematical teaching is long overdue. We look to University Training Departments and Training Colleges to do their best to make reform possible by training a generation of men and women who will be equipped and ready to lead the way.

GENERAL SCIENCE

Although we shall refer later to the education of those pupils who remain longer at school, we are here mainly concerned with pupils who leave about the age of 16, and with the kind of science which they ought to be taught. Physics and chemistry have been traditional. Science was

introduced into the curriculum at a time when scientific inventions had focused public attention on man's physical and chemical environment, and had created a demand for instruction in physics and chemistry. Pupils who proceeded to the University automatically continued there the subjects they had begun at school, and on leaving the University taught the physics and chemistry which they had studied. But since that time the horizon has widened very considerably. Biology has attracted more and more attention, and is now recognised as being of fundamental importance to man in relation to medicine, nutrition, public health and the social services.

If Science is to be a living subject, it must deal with the pupil's own experience and, on the basis of that experience, extend through interest his horizon. But courses in science have not corresponded with the extending interests of the pupils. The teaching of science has lost close touch with life itself and, for this reason, has often failed either to give the knowledge required or to stimulate the pupil's interest.

In the Report of the Elementary Science Sub-Committee of the Science Masters' Association, published in 1934, the subject is defined as " a method of presenting the fundamental principles of science based on the interpretation to youth of the world in which he lives, involving not only an understanding of the fundamental principles, but also of the attitude and method of science generally. Science is here regarded as a living whole, comprehending all the sectional sciences necessary to give youth an intelligent understanding of his biological, chemical and physical surroundings." As recently as 1937 the Interim Report of the Sub-Committee of the same Association appointed to enquire into the teaching of General Science defined it as " a course of scientific study and investigation which has its roots in the common experience of children and does not exclude any of the fundamental special sciences. It seeks to elucidate the general principles observable in nature, without emphasising the traditional division into specialised subjects until such time as this is warranted by the developing unity of the separate parts of that field, and by the intellectual progress of the pupils."

We believe that there is a general body of knowledge, not confined to either of the physical or biological fields of science, which ought to be known by the average citizen and also by those who may ultimately specialise in a particular

part of one of these fields and that we should aim, in general, at giving to each boy and girl this minimum knowledge of both the physical and biological worlds. Nothing but the broadest outlines requires to be included, nor is the issue affected by the fact that some of these pupils may ultimately become specialists in any one field.

Science has been established too short a time in the curriculum for an enduring tradition to have grown up. A generation ago the methods employed may have been criticised on the grounds that there was too little practical work in the schools and that as a result the knowledge imparted fell a good deal short of reality. This may have been, in part, due to a shortage of well-qualified teachers, but a more important factor is to be found in the insufficient laboratory accommodation and equipment at that time. This condition has almost passed away, and all Governing Bodies now realise the necessity for ample provision of room and material for work in Science, even if they have not always provided it. Today critics of existing science courses complain that the content is too small, and the range covered is too narrow to be regarded as satisfactory; too often the boy or girl is, in effect, restricted to a single-subject course, mainly in physics or chemistry or botany. In more recent years a wider course in biology has replaced botany and some little chemistry may even be added, but in many schools, especially boys' schools, there is still little beyond physical science, and this is too often restricted to chemistry together with some sections of physics. The Investigators of the School Certificate Examination criticised the scope of the examination syllabus very freely in 1931, and these criticisms have in general been endorsed by the teaching profession. The Science Masters' Association, after very full discussion, have adopted the view that, for children up to the age of 16, science should be taught on a much broader basis, and the Committee of the Association has produced a Report to give further precision to the ideas connoted by the term 'General Science'.[1] This section of our Report is intended as a contribution to the solution of that problem.

Among the chief aims to be sought in the teaching of Science in schools, we suggest the following:—

(i) It should give pupils some knowledge of the natural laws which operate in the universe and of their application. This is an appeal to wonder and to interest, as well as to utility.

[1] *The Teaching of General Science*, London, John Murray (1936).

(ii) As a complement to historical studies, it should reveal the influence of scientific thought and achievement in the evolution of our present-day civilisation and perhaps even more important, it should indicate its possibilities, for good and evil alike, in the future of the human race. The appeal here is to social interest and social utility.

(iii) It should give children an introduction to scientific methods of thought and investigation. This appeal is essentially one to the intellect and, in so far as it is achieved, Science takes the place of the mediaeval study of logic.

It is useful to give some consideration to the relative value of these aims, since most existing courses appear to have concentrated unduly on the third to the exclusion of the first and second. Training in scientific method has a special value for pupils who will pursue a career in which science is of prime importance, but we feel that there are valid arguments for teaching science to all girls or boys without reference to their future careers, and we would claim that science should be taught, as Latin was taught in the Middle Ages, because it is useful—useful to the individual as an element in his own life and useful to him as the indispensable background of much current thought.

If this be accepted the science syllabus should be drawn very widely indeed, and the acquisition of a body of knowledge on a number of topics becomes at least as important as an appreciation of the methods of science. The great difficulty facing teachers is that of selecting from the multitude of topics available. We suggest that for a syllabus to be effective it must succeed at every stage in stimulating the interest and imagination of the pupils. This, we suggest, is best achieved when it is linked with something within the experience of the child. It is, therefore, most desirable to adapt the syllabus to the local environment. The syllabus should aim at imparting a knowledge of both the physical and biological worlds in which the children live.

Under the heading of Physical Science, astronomy, physics (including mechanics), chemistry and possibly geology, have claims for a place in the syllabus. No course of science can be taken to be satisfactory unless it includes some idea of the nature of the earth, its place in the universe, and its relation to other bodies therein; in other words a little *astronomy*.

Ordinary day school conditions impose certain limits on night observations, and practical work may have to be confined to day observations (which frequently form part of the geography course), work with an orrery, and possibly to the use of stellar maps. We have, however, primarily only in mind such an outline of knowledge as can be given with the assistance of good popular works on astronomy well illustrated with plates.(1)

We consider *geology* next, partly because it can be dealt with in small compass, and partly because the consideration of it falls most naturally after discussion of astronomy.

We think that children, by the age of 16, should have become familiar with the main geological features of their neighbourhood and should have acquired a reasonable knowledge of the relation of geological formation to scenery. The extent to which geology and astronomy are taken in the geography or the science course is a matter of internal school organisation. It is important that they should be taken seriously in one or other.

Physics.—(a) *Properties of matter.*—One of the first things necessary for any work in science is an acquaintance with the different forms of matter. This topic, therefore, which is almost invariably placed first in any syllabus, must come quite early in any science course. Under this heading a generous treatment of the different and differentiating properties of solids, liquids, and gases should be given. By the time children have reached the age of 16 they should know the essential differences between these three states of matter, not excluding (as is so often the case) a first-hand knowledge of the phenomena of surface tension. We would like to emphasise the importance of a much wider scope than the conventional work, which is so often limited to rather dull mensuration culminating in equally dull work on the subject of 'density.' Once a knowledge of the various properties of the three different states of matter has been obtained, their passage from one to another bringing in the phenomena of fusion, solidification, vaporisation, condensation, and sublimation, should be dealt with together with applications of these phenomena in human life.(2)

(1) Lantern slides and the use of the epidiascope assist in giving further information about the sun, the planets, fixed stars, nebulae; and towards the end of the science course, the use of the spectrum in astronomical research.

(2) This too would be a very convenient stage to deal with the nature of crystals, and to show some of their beauty.

(b) *The Laws of Motion.* By the time the pupil has reached the age of 16 he should have a first-hand knowledge of the fundamental Laws of Motion. This does not mean a rigorous treatment of traditional 'Mechanics'; that subject is more suited to the mathematician, and for those who pursue a more formal course in addition to 'General Science'. It does not seem unreasonable to expect pupils to have such a knowledge of mechanics as will give them clear ideas of the technical meanings of the terms pressure, force, energy and friction; and of actual machines by which man is able to use natural forces for his own purposes. Further, a boy or girl should come to know that no machine exists which produces even as much energy as is put into it.

(c) Other forms of energy—heat, light, sound, electricity—have all a strong claim for qualitative or roughly quantitative treatment. The syllabus, however, should be relieved of much unnecessary lumber which has accumulated largely through the influence of examinations, and of text-books which have not kept pace with the resources and outlook of the schools. For example, while it is important that pupils should understand what is meant by a quantity of heat and should have a fairly clear idea of latent and specific heats and of vapour pressures, they might give much less attention than has become conventional to laboratory experiments on expansion and on calorimetry. Whilst the transference of heat by conduction, convection and radiation is important, more stress should be given to radiation, upon which a number of fundamental experiments can be shown. It will not be possible to deal with the mechanical equivalent of heat at this stage, but it is possible to show—qualitatively—the conversion of heat into other forms of energy and vice versa. At all stages the subject should be dealt with in relation to everyday applications, and in this connexion it may be suggested that the production of cold and the use of refrigerators have so far received less attention than they deserve.

(d) *Sound.* Sound has so far not been a popular subject in the schools. It demands for its proper exposition apparatus which is rather bulky, and which does not lend itself to individual practical work. Nevertheless it is possible to introduce children to the conception of wave motion and vibration by means of simple experiments.

(e) *Light.* Two things in connexion with light might be demonstrated at the outset (1) that it appears to travel in straight lines and (2) that closer investigation shows that

it does not. A dramatic introduction on these lines to the subject of interference prepares a child for considering light as a wave motion. This is one of the great points to be achieved when dealing with light, and the other common phenomena of refraction, reflexion, dispersion and the phenomena of colour can all be dealt with fairly quickly in an experimental fashion. We suggest that it is not important up to the age of 16 that boys and girls should work equations involving u, v, and f, and even μ, but it is important that they should know how a lens works, and in what circumstances they would use a long, and in what a short focus lens. We might even expect them to know by the time they come to use a camera what is meant by mystic figures like $f/11$. This is very rarely known to-day by pupils who can solve quite difficult problems involving u, v, and f. The velocity of light is a story which might be shortly told.

(f) *Electricity.* In electricity pupils should have a qualitative knowledge of the thermal, chemical and electromagnetic effects of a current and of their applications in modern life. Such phenomena in electrostatics and magnetism as are relevant to these ends might be included, and, at any rate in schools or courses giving more than the minimum time to science, qualitative work should be undertaken so far as to give precision to the commoner units used in ordinary life, volt, ampere, ohm and watt. More advanced topics, such as the essential differences between direct current and alternating current and the principles of wireless communication, should receive where possible a popular treatment by means of lecture demonstrations.

Chemistry. The present practice in the schools is to take pupils through a course of non-metallic inorganic chemistry with little regard to the applications of the subject to ordinary human life.

We think therefore that schools should experiment with courses designed to show how man has made use of the products of the earth and we see no objection to the statement of the atomic theory as a postulate—which will be investigated at the 16–18 stage by those who pursue science at that stage. The experimental study of water, of air, of combustion (and fuels of various kinds) must all claim a place, whilst the various minerals or other substances obtained from the earth and their more important compounds should also be studied.

We should like to see experiments in teaching the properties of the simpler and commoner organic substances and processes on the lines already followed in some American schools, e.g., the processes of fermentation and saponification should find a place in the course.

Biology. However well physics and chemistry may be taught, a child should get something more out of the teaching of science than these two subjects can bring. That something more can be obtained by a study of biology. Considerable progress has been made, especially in girls' schools, but there is still a long way to go before we can say that its possibilities have been fully apprehended, let alone fully utilised. In the earlier years of the course we suggest that the approach should be through natural history. While they are yet young, children should be taught to recognise quickly and to know the names of as many of the plant inhabitants of their area as possible. We think that this should be done much more systematically than is generally the case, and this kind of knowledge and recognition need not be limited to the flowering types. The animal creation should be similarly known, but probably to a smaller extent.

In later years the centre of interest will shift to a study of the general characteristics of living organisms, and the various life processes—metabolism, respiration, sensitivity, movement, reproduction—and to the interrelation between different groups of organisms. In dealing with these the instances studied should be drawn both from plant and from animal life, and often from the human organism, where this is suitable.

The foregoing bare outline of suggestions is clearly not a syllabus, still less does it suggest the order in which the many various topics might be taken. Teaching syllabuses, in which the various topics are arranged according to the maturity of the class, are needed in each school, and probably in no two schools are they, or should they be, quite the same. In making our selection of topics we have covered a very wide range and we risk the criticism that the range is too wide. What we wish to secure in all courses of Science is that the full and rich potentiality of natural science in the whole world of phenomena should be realised We must emphasise the justice of the current revolt from the conventional practice of beginning the study of science by means of elementary courses in one or two subjects, e.g., physics or chemistry or botany, which are often in no way related.

Science will, we believe, make its best contribution if early specialisation in any one branch is avoided. The course should be 'general,' beginning as 'nature study' in name, and remaining so in fact at least for the first two or three years, and for many up to the age of 16, the term 'nature' being interpreted in the widest possible sense to include the whole range of natural phenomena. On the other hand we recognise that with boys or girls who show scientific ability, elementary formal courses in one or two sciences might advantageously be begun at about the age of 14.

We foresee, and try to meet in advance, two criticisms. The first is that such a course may prejudice the future careers of those who will later become specialists in some branch of science. We do not believe that more specialisation than we have indicated is either necessary or desirable before the age of 16, and we believe that it is desirable before children settle down to the formal study of certain branches of science that they should first be given a bird's-eye view of the wider field.

The second criticism is that there is insufficient time to cover the field. This, we believe, depends more largely than is generally realised upon making better use of the time allotted to Science, as was indeed suggested in the Report on *Natural Science in Education*, commonly known as the Report of Sir J. J. Thomson's Committee.(1) Much of the time, we believe, now spent in 'experimental work' could be better employed. The term is commonly used to denote practical work in a laboratory, done by the pupils themselves. Much of this might with advantage be done by the teacher as demonstration. In this way a larger variety of experimental work, covering more ground and carried out more accurately and skilfully, will provide more data over a wider variety of topics than is possible where the only, or the main, experimental work is done by the pupils. By a greater use of good demonstration we believe that science teachers will more commonly stimulate wonder and imagination.

We realise that such a change in methods of teaching makes even more imperative than ever the necessity for the provision of adequate skilled laboratory assistance. We understand from our witnesses that many schools are not so provided, and we endorse the view that, if we are to do more than lip service to science teaching, this assistance must be provided universally.

(1) *Natural Science in Education*, H.M. Stationery Office (1918).

We have referred to the Report of Sir J. J. Thomson's Committee (1918).[1] Though more than 20 years have elapsed since that report was written there is no reason to dissent from its general doctrine. In one particular indeed we feel it necessary to emphasise the views then expressed by the Committee. In § 56 the Committee says:

"There is a tendency at present in some cases to discourage boys from reading anything about their Science work except the notes which they take in class and in the laboratory. We consider that this policy is most pernicious. If a boy is interested in his subject he will naturally wish to read about it and should be encouraged to do so. A part of the time given to preparation, which is now often devoted to the mere transcription of laboratory notes, might be spent in this way, and boys should have access to good scientific books suitable to the stage of knowledge reached. The practice of discouraging private reading is responsible for the tendency, which has become more noticeable in recent years, for students of Science at the Universities to rely entirely on the instruction they get in lectures. Some of them seem to have lost any desire to read for themselves and for want of practice lack the ability to use books to any advantage. Boys who have acquired the habit of reading books of Science when at School are more likely to keep alive in after-life their knowledge and interest in the subject."

We would remind science teachers of these remarks, and would affirm our belief that they afford a warning that is still necessary.

Probably many schools which would like to adopt syllabuses on a broader basis than that of the existing specialised work in the single subjects may find it difficult to do so because of the lack of teachers with sufficiently wide previous training. In the future it is to be hoped, perhaps expected, that intending teachers of science will be able to select at their Universities courses which are wide, in place of the single subject courses which so many have hitherto followed. The present university requirements in the way of an advanced knowledge of mathematical and experimental physics or of chemistry are now becoming so highly specialised for those who intend to use these subjects in the research and design departments of modern industrial concerns, that it is very doubtful whether

[1] *Natural Science in Education*, H.M. Stationery Office (1918).

such courses can be made suitable at the same time for the intending science teacher unless he contemplates only Sixth Form work.

We are, therefore, of opinion that degree-giving courses which involve the knowledge of at least three sciences, such as already exist at certain Universities, ought to exist more widely, since it is likely that there will be an effective demand for such courses if our recommendations are adopted.

The younger generation of existing teachers should, it may be suggested, find it possible and advantageous to broaden their science interests. The conferment of a degree finishes no man's education, and the younger generation of teachers may be expected to add to their knowledge and interests by attending courses which are already available, or can be made available, in most parts of the country, either as extra-mural students at Universities or at Technical Colleges and Institutes. In general the need will be for men teachers to add biology to their qualifications in physical science, and for women to add physical science to their existing qualifications in a biological subject. Older teachers, often with other claims on their time, may find it more difficult to extend their horizon in this way, but instances are not rare where, by means of special courses conducted by the Board of Education or by other bodies, a teacher has been stimulated to make a start in a new subject, and subsequent unhurried study by a mature mind has resulted in this, rather than the subject of the degree, becoming the dominant interest in his life.

We believe that, in the main, the science teachers of the country may be relied upon to adapt themselves, by one or other of these means or by a combination of them, to new courses of work, if they are convinced of the desirability of the change.

We recognise that in many cases our recommendations must involve teachers being seconded for courses of training and we feel sure that Local Education Authorities and Governing Bodies will co-operate readily.

Finally we would urge that, both in the wider courses in the Universities and in the special short supplementary courses, there should be a greater emphasis on experimental demonstration of natural phenomena in addition to laboratory experiments. This is vital to our conception of science teaching in schools, and we feel that in many cases the emphasis has been inadequate.

In some cases teachers have not been given the opportunity of seeing many demonstrations during their training, and in some cases the actual teaching hours are so great that they have not the time necessary for the proper preparation of experiments. We feel that the latter important point in particular demands recognition, and that in all such cases provision should be made for laboratory and lecture-table assistance. The presence or absence of adequate help of this kind may often make all the difference between the success or failure of science teaching.

CHAPTER VII

THE SCHOOL CERTIFICATE EXAMINATION

History and original aim of the examination; the group system

1. The history of the School Certificate Examination as now organised and conducted by the various examining bodies may be said to begin in 1912, when the Board of Education, after considering our Report on Examinations in Secondary Schools(1), addressed a letter to the Universities inviting them to confer on the scheme of examination which the Board had prepared as a basis of discussion. Subsequently, in Circular 849 the Board invited criticism of these proposals from local education authorities and other bodies and persons responsible for the management of Secondary (Grammar) Schools or interested from various points of view in the question of school examination. The Board also consulted a number of professional bodies with regard to the acceptance of certificates for the purpose of entry into the professions.

From Circular 849 and subsequent circulars it is possible to learn the principal objectives of the Board's proposals, and the character of the examination which they contemplated. Among the former was a desire to limit the number of examinations which might be taken by pupils in Secondary (Grammar) Schools. It will not be disputed that this end has been secured by the establishment of the 'First' or School Certificate Examination intended for pupils about the age of 16. "Even its critics," it was stated in evidence, "will agree that it has served a very useful purpose in freeing the Secondary Schools from the nightmare of a multiplicity of external examinations." The simultaneous recognition of the 'Second' or Higher Certificate Examination, intended for pupils about the age of 18, further clarified the position by removing the temptation to try to provide in one examination for two different classes of candidates. Further, it was proposed that the Universities should be recognised as the responsible bodies through whom the examinations in Secondary Schools should normally be conducted, and that in order to secure the necessary equality of standard and to provide machinery for enabling the scheme to be improved from time to time the Board of Education should perform the function of a co-ordinating authority with the help of an Advisory Committee containing representatives

(1) *Report of the Consultative Committee on Examinations in Secondary Schools.* Cd. 6004 (1911).

of the Universities and of local education authorities. This Advisory Committee was established in 1917 and designated the Secondary School Examinations Council.

It was a further point in the Board's proposals that the School Certificate Examination should not have the entirely external character which belonged to former examinations, and " that Teachers should be brought into touch with the Examining Bodies by some system of representation or consultation ; by the right to submit their own syllabuses for examination ; and by a provision that Head Masters and Head Mistresses should submit their estimate of the merits of candidates from their schools in each of the subjects for examination." (1)

The School Certificate Examination, according to Circular 849, was to test the results of the course of general education before the pupil began such a degree of specialisation as was suitable for a Secondary School. The Form and not the pupil was to be the unit for examination, and it was contemplated that a large proportion of the pupils in the Form should be able to satisfy the test. The examination would be suitable for Forms in which the average age of the pupils ranged from about 16 years to, say, 16 years 8 months. It is clear, to quote the report of the Panel of Investigators, appointed by the Secondary School Examinations Council in 1931, that " the primary purpose of the examination was to provide a suitable test of the ordinary work of a Secondary School at the Fifth Form stage, suitable in the sense that whole Forms, and not only picked pupils, would probably be presented for it, with the expectation that a large proportion would pass (what proportion was never stated), and that without special preparation or undue disturbance of the normal work of the Form."

The initial proposals treated the subjects for examination as falling into three main groups: (1) English subjects, (2) Foreign Languages, (3) Science and Mathematics; and a candidate in order to obtain a Certificate would be expected to show a reasonable standard of attainment in each of these groups and would be judged by this test rather than by his power to pass in a prescribed number of specified subjects. In addition to these three main groups of subjects, there was a fourth group including Music, Drawing, Manual Work and Housecraft, in which it was not proposed to require candidates to be tested, though every facility would be given to examining

(1) Board of Education : Circular 933, December 1915.

bodies to offer examination in any subject in this category; nor was success in these subjects to be considered in the award of Certificates. The reason for the discrimination between these subjects and those in the other three groups was not any assumed inferiority in their educational value, but the fact that they were not, in the same way as the others, capable of being tested by written examination, and the apprehension lest " harm might be done to them at this early stage of their existence in Secondary Schools by bringing them prematurely into the sphere of examination." (1)

Subsequently, in consequence of the criticism raised by their original proposal, the Board agreed that provision should be made for giving these subjects a fair place in the scheme, and success was permitted to count towards the attainment of a Certificate.

The effects of the examination on school work

2. It cannot be disputed that the School Certificate Examination has in fact performed important services for the education provided by Grammar Schools. During the past 20 years it has been one factor in raising the general standard of attainment in the ordinary school subjects to a level which could hardly have been reached without the incentive offered by the prospect of success in a public examination.

The Certificate Examination has also been a powerful preventive of narrow specialisation during the period of school life which ends about the age of 16. With the passing of time, however, and the increased importance attached to the examination as shown by the numbers presented for it,(2) the character of the examination and its influence upon the education of the Grammar School have been the object of much criticism both from inside and outside the teaching profession, and it has been widely felt that the examination is affecting, and often adversely, not only courses of study and methods of instruction but also the physical health and mental outlook of children in ways which were certainly never contemplated by those who framed the original regulations. Having regard to the evidence which has been presented to us, we believe that this criticism contains much substance; and *we hold that in several important respects the influence of the examination and the process of preparation for it are inimical at present to the healthy growth in mind and body of a large number of children who pass through the Grammar School.*

(1) Circular 933.
(2) See Chapter II, Table 11, p. 100.

This examination now largely determines the curriculum for pupils under the age of 16

3. It is a point of much significance that at the time of the inception of the School Certificate Examination it was regarded as " a cardinal principle that the examination should follow the curriculum and not determine it." (1) We cannot fail, however, to note the many indications that in practice this principle has been reversed. Our witnesses, as we have stated already, almost unanimously held that the School Certificate Examination controls the curriculum, and we cannot avoid the conclusion that the requirements of the examination have put a heavy premium on certain subjects to the detriment of others, and have compelled schools, in the interest of pupils desiring to obtain the Certificate, to teach certain subjects to all pupils throughout their course, even when they might be deriving greater benefit from taking alternative subjects or from taking fewer subjects to a higher level.

Overstrain and pressure on individual pupils

4. In a previous chapter we spoke of easing the burden that the schools are at present called upon to bear, and we believe that this burden, conceived in terms of pressure placed upon individual children is often wholly excessive. One of our witnesses spoke of " that feature of secondary education (2) which causes the gravest alarm at the present moment among those who are closely in touch with young people—the tendency of secondary education to overwork and overstrain the adolescent pupil." Another witness found the " chief cause of this overpressure in the new examination system," adding that " those who know schools from the inside are only too familiar with the sense of rush, hurry and overstrain." It may be that the nervousness of children due to this, their first public examination, is sometimes aggravated by the anxiety not only of parents but of teachers. No doubt, the better the school the more likely will be its pupils as a whole to face this as other tests with equanimity. But we believe that *the demands of the examination, as at present constituted, the rigour of the preparation for it and the importance attached to the certificate by employers are such, taken in conjunction, as often to cause overstrain and excessive anxiety even when children are receiving the wisest guidance at school.* An additional factor

(1) Circular 1034, March 1918.

(2) i.e., grammar school education.

is that in certain cases the possibility or degree of financial help for further education depends on the result of the examination.

Dual function of the existing examination—(a) as testing the first stage of grammar school education; (b) as an alternative to matriculation

5. A dominant cause, however, of the pressure exercised by the preparation for the Certificate Examination is the fact that the examination has been used at the same time for two distinct purposes—to test the results of the first stage of the education provided by Grammar Schools, and also to enable the pupils of those schools to obtain a certificate acceptable for the purpose of matriculation.

Circular 849, expressing the original conception of the examination, stated that, if the examination were conducted on the principles of easy papers and a high standard of marking, the difference between the standard for a simple pass and that required for matriculation purposes would not be so great as to prevent the same examination being made to serve both purposes; and with that object a mark of credit was to be assigned to those candidates who, in any specific subject or subjects, attained a standard which would be appreciably higher than that required for a simple pass. The practical convenience of this arrangement was obvious. The abler pupils intended for the Universities would take one examination instead of two, and the organisation and time-tables of schools would to that extent be simplified. Experience, however, has shown that the attempt to combine the two different objects in one examination has been disastrous. A 'matriculation certificate,' which should mean nothing more than a certificate entitling the holder to admission to a University, has come to mean a superior kind of school certificate with its own special value in the eyes of employers and the general public, and to be the "aim of thousands of Secondary School pupils who neither intend nor desire to enter the doors of a University." Indeed many children (and their parents) are oppressed by a mistaken sense of failure if they obtain a School Certificate but do not satisfy the regulations which make it a 'matriculation certificate.'

Though our evidence leads us to believe that employers are becoming more familiar with the meaning of the School Certificate and more aware that the Matriculation Certificate does not by any means necessarily imply a higher educational

performance, the traditional respect for matriculation and especially in certain circles for "London Matriculation"[1] still prevails in the minds of many people not interested in education except as a preliminary to employment; and Head Masters and Head Mistresses are in consequence often urged by parents to enter their children for matriculation when on educational grounds it would be far better for them to take a different selection of subjects in the School Certificate Examination. The choice of subjects already restricted by the 'group' requirement is still further narrowed by the requirements for matriculation. "Subjects which are of no value for matriculation purposes are definitely at a disadvantage. Nor would this matter seriously, if only those pupils were concerned who proposed to proceed to a University. In fact matriculation requirements dominate the situation. . . . This goes far to render nugatory the idea of the School Certificate Examination as essentially an examination which provides a test of the Secondary School curriculum, but does not itself determine the curriculum."[2]

With regard to the content of the curriculum, the association of matriculation with the School Certificate Examination has, perhaps, been most unfortunate in diminishing the importance attached to those practical and aesthetic subjects which were not at first permitted to count on an equality with others towards the award of a Certificate. We recognise that there have been other causes why, particularly in boys' schools, the development of these subjects has lagged behind that of others—the prevalence of a strong tradition in favour of those subjects which a university degree best qualifies a man to teach, the qualifications of existing staffs and in many cases the lack of adequate facilities for pursuing those subjects which require more practical work. Nevertheless it must be held that *the conjunction of the Matriculation Certificate and the School Certificate has helped to upset that balance between what are conventionally known as academic and non-academic subjects, which we believe should be maintained.*

It was not surprising, therefore, that the Report of the Investigators appointed by the Secondary School Examinations Council, from which we have quoted, recommended that the School Certificate Examination should no longer be accepted by the University as alternative to their own matriculation examinations, and that as an immediate step Matriculation

(1) Which is more than ordinarily rigid in its requirements.
(2) Report of the Panel of Investigators, p. 50.

Certificates should no longer be awarded on the School Certificate Examination. Severance between the two certificates is under consideration by the various examining bodies and has already been effected by the Northern Universities Joint Matriculation Board.[1] A committee representative of the Joint Committee of the Four Secondary Associations and the Association of Education Committees has had under consideration during the past two years the purpose of the School Certificate Examination, its linkage with the Matriculation Examinations of the Universities and the consequences arising from that linkage. In a memorandum which has attracted much attention they express the opinion that " this association of examinations designed to different ends has proved to be harmful and rigidifying to the curriculum of the secondary schools, the form of the examinations themselves, and the regulations relating thereto," adding that evidence for this statement came from both teachers and administrators. The Committee urged that the School Certificate Examination should be considered entirely apart from the considerations relating to criteria for entrance to the Universities.

With these recommendations we are in complete agreement, and *we believe that the disappearance of the qualification for matriculation by means of the School Certificate Examination is imperatively necessary.* We take this view not so much because we believe that this change will by itself lead immediately to that wider choice of subjects by individual candidates which we desire (though combined with other changes it will certainly contribute to that end), but because we are of the opinion that so long as the present attempt to combine divergent purposes continues, there will be in many schools and classes a constant drive of the weaker pupils to keep up with the stronger in the attempt to reach an objective for which they are not suited at a pace which they cannot maintain.

The School Certificate or its equivalent should be a first condition for matriculation, but matriculation should not be obtainable only on this examination

6. *We welcome the proposal that matriculation should not be obtainable solely on the School Certificate Examination, but we consider that with a view to preventing premature concentration on one or two subjects a School Certificate or its equivalent should*

[1] The position at Oxford and Cambridge is peculiar, since admission has in general depended not only on satisfying university requirements, but on satisfying further requirements imposed by the colleges.

be a first condition for matriculation. We think it is unfortunate that a Matriculation Certificate is so often regarded by commercial and industrial firms as the proper test and objective of a grammar school education, and as necessarily an index of the suitability of the holder for employment by them. *We do not feel that it is necessary in the best interests of children leaving school or of employers that the School Certificate should record, as at present, only those subjects in which credit has been obtained.* We are in sympathy with the recommendation of the Panel of Investigators that *Certificates should have recorded on them not only, as at present, those subjects in which credit is obtained, but also those in which the full pass standard is reached, the level of performance, pass or credit, obtained in each subject being clearly stated on the Certificate.*

The disadvantages of the existing group system; the 'five subjects' requirement

7. We hope that a wide consensus of professional opinion will at length prevail to secure for individual candidates the exercise of a greater freedom of choice as between the different subjects of the examination. The principal restriction on this freedom has been the requirement in respect of the groups into which subjects were classified when the School Certificate Examination was instituted. The regulations have required that for a candidate to obtain a Certificate he must obtain a pass in one subject from each of Groups I (English subjects), II (Foreign Languages), and III (Science and Mathematics), and a pass in at least five full subjects of which two might be taken from Group IV (Aesthetic and Practical Subjects). The continuance of these requirements was recommended by the Panel of Investigators who reported in 1932, though they also recommended that some modification might be permitted in the standards of Group II *or* Group III if a candidate passed in the other two of the first three groups and obtained three credits out of five subjects. These modifications, partially adopted by the examining bodies, have been little used. There can be no question, however, that within the past few years a movement in favour of a wider choice in subjects has grown rapidly among both teachers themselves and others interested in education.(1) The policy of those who have advocated the most drastic changes in this direction may be illustrated by the recommendations of the committee

(1) To a considerable extent this movement was initiated by the Head Mistresses' Association.

representing the Four Secondary Associations and the Association of Education Committees; their recommendations included the total abolition of the group system and the recognition of all subjects of the examination as of equal value.

Between those who have wished to adhere to the existing regulations and those who would willingly see an entirely unrestricted field of choice offered to candidates there is room for several gradations of opinion. We attach weight to the contention that the compulsory 'spread' of subjects, and in particular the obligation to pass in *both* Groups II and III, has contributed to overpressure on candidates, and has caused the failure of a large number who have accomplished a generally meritorious performance in the examination, and who might properly be regarded as having concluded satisfactorily that stage in their education which the examination is designed to test. We believe, too, that it has often meant in practice the diversion of a child's energy from a subject in which he is beginning to find meaning and interest to one from which no lasting benefit can be expected. "If," it has been said, "in our schools, we are to develop lively minds, keen interests and sound judgments, it is essential that the material of education should be adapted to the quality of the mind to be educated. Some patience and steadfastness may be developed by the prolonged effort to master the niceties of French idiom or of Latin grammar on the part of the child with slight linguistic ability, or to learn enough book-work to scrape a credit in a geometry paper on the part of a girl or boy to whom mathematics makes no appeal. But the time expended is out of all proportion to the result achieved. Precious time has to be taken from subjects in which the mind rejoices and in which, for that very reason, a pass may be considered safe, that there may be additional grind at weak subjects which are put aside with joy as soon as the minimum of marks has been obtained in an examination paper."(1)

Moreover, we cannot believe that the classification of subjects into the present groups is based on any principle so profound as to justify it in exercising so decisive an influence as it has done on the character of the examination. "Why," it has been asked pertinently, "should there be anything particularly sacred about this special grouping? Only the first three are compulsory, presumably being supposed to indicate the

(1) Miss I. M. Drummond in the Supplement to The Journal of Education, 1 April, 1938, on The Form and Aims of the School Certificate Examination.

minimum of a good general education. But can we regard as a good general education one which neglects the human or social sciences (if we may so designate history and geography) and the aesthetic subjects—art and music? Surely these are as important for the majority of the pupils as the elementary stages of a foreign language. Why should mathematics be regarded as a satisfactory representative of the whole group which includes the physical sciences and biology? Why should mechanical drawing be in the same group as art and music?"[1] It seems probable, too, that the group classification rested originally upon a conception of the all-round training of the faculties which is now largely discredited. The principle of parity between subjects, which we have advocated in Chapter IV, is hardly consistent with an arrangement which places certain subjects or groups of subjects in so sharply preferential a position and has in fact permitted one subject, French, to become in the greater number of schools virtually compulsory. The arguments which have sometimes been advanced to prove that the 'five subjects' requirement is a more common cause of failure than the Group II or Group III requirements do not seem to us to carry conviction. The two causes are indeed barely, if at all, distinguishable. An excess of time and energy devoted by a child to a compulsory subject in which he knows himself to be weak will inevitably affect adversely his work in other subjects.

We suggest later such a further change in the regulations governing the examination as will permit a Certificate to be obtained by taking subjects on an examination syllabus less extensive than that which is now required for a pass. This change would not in our opinion make it any less desirable to extend the choice between subjects. Provided, however, that this change be made, *we see no objection to the requirement that a candidate must pass in at least five subjects; and we are of opinion that this requirement is valuable as discouraging undue specialisation at this stage.*

The special importance of English; suggested requirement that a candidate must pass in English, and either in a foreign language or in some scientific subject

8. We do not feel that by attributing educational values to the study of any subject wisely pursued we are committed to

[1] Professor C. W. Valentine, *Examinations and the Examinee* (1938), p. 20.

the position that passes in any five subjects, however widely or narrowly they may be selected, should entitle a candidate to a Certificate without any further requirement. We regard the training in the comprehension and expression of English as of such special importance, both for successful work in other school studies and for the conduct of practical affairs in later life, that *we advocate a simple test in the use and understanding of the English language as a necessary qualification for obtaining a School Certificate.*

Again, while we realise that " educational values inhere not in particular subjects but in the spirit of study," and that methods of teaching matter more than the subject, we recognise also that certain studies, each, as we have said, with its own distinctive individuality, have won a special place in the curriculum of the Grammar School, either because they represent great cultural and educational traditions, or for their direct bearing on the physical world in which children are living. Notable among these are the study of various Foreign Languages and the study of Mathematics or of the various branches of Science. It may be expected that a number of the abler children admitted to a Grammar School will always find the core or unifying principle which can give so much life and meaning to their work in Foreign Languages or in Science. For the majority this centre of interest should be found in English and the English subjects. For some, though not perhaps for a great number of those for whom the education of a Grammar School is most suitable, it may lie naturally in the practical or aesthetic subjects. It was of these last two classes that we were primarily thinking when we expressed our agreement (1) to a reduction of subjects in the curriculum, but in doing so we made it a condition that they should include English itself, some Science(2), and, in the case of the abler pupils, at least one Foreign Language. We have also recommended that a child who, after a fair trial, shows no aptitute for a Foreign Language should be allowed to drop it ; *and we hold that the regulations governing the examination should be so framed that no candidate should be prevented from obtaining a Certificate solely by reason of the lack of linguistic or mathematical or scientific ability.* Grammar school education, however, unless it is to be altered fundamentally in character and objective, can scarcely imply less than that some recognised standard has been reached in English and in at least one of

(1) Chapter IV, p. 188.

(2) We include Mathematics with Science.

these two other main branches of learning. *We are therefore prepared to accept the requirement that a candidate in order to obtain a Certificate must pass in English and either in a Foreign Language or in some scientific subject.*

Reduction in content of syllabuses; papers corresponding to varying ranges of work in different subjects; limitation on number of subjects to be offered

9. If the restriction on the candidate's choice of subjects is limited only to this extent, it will go a considerable way towards bringing the examination into conformity with the recommendations we have made for lightening the tendency to overwork and overstrain on adolescent pupils which exists in Grammar Schools to-day. In order that the schools may be assisted to obtain the full relief which we had in mind in Chapter IV, another reform of at least equal importance with the reform of the 'group system' is essential, namely, a reduction of the content of the examination syllabuses themselves. We recommended in that chapter a reduction in the content of Mathematics and a simpler course in Science; and we have indicated that further and desirable relief would be possible if there were greater variation in the level to which certain other subjects are carried. These proposals imply some lightening of the syllabuses for the ordinary papers, without a lowering of the standard of marking; so that these papers may correspond to such ranges of work in the various subjects as we have recommended for all pupils in Grammar Schools.(1) *We see no reason why additional papers, or, in the case of Science, papers in particular sciences as well as a General Science paper, should not be provided. The syllabuses on which these papers are based would differ in scope and character from those adopted for the ordinary papers; but they should not, in our opinion, be of heavier content than existing School Certificate syllabuses. On the understanding that, for success in the examination as a whole, a pass in each of* five *subjects will be required, as well as a pass in 'compulsory English,' we are of*

(1) In this context, we state our opinion that full use should be made of the 'upper margin' of marks, so that the better candidates may have the opportunity of obtaining high percentages. We think it equally important that the number of candidates who are allowed to pass the whole examination should depend upon the attainment of a particular standard, and should not be determined on a percentage basis.

opinion that an 'additional paper'[1] *should rank as a 'subject.' We desire, however, to add the proviso that the number of subjects offered for examination purposes by individual candidates, apart from 'compulsory English,' should be limited to* six *; or, if one or more 'additional papers'*[1] *are taken, that the number of subjects offered, including such additional papers, should not exceed* seven. *We consider that a credit mark should be obtainable both on the ordinary papers and on the additional papers.*

The exact form and measure in which the changes here outlined may be brought about is a matter for expert consideration by the various examining bodies and the Secondary School Examinations Council. We trust that their special experience will enable them to make such modifications in the examination as will assist the schools towards giving practical effect both to the governing principles which we have laid down for the grammar school curriculum in general, and to the proposals which we have made as to the character and range of the instruction in particular subjects.

We cannot sufficiently emphasise that our recommendations in respect of the curriculum must in the main be fruitless unless and until the School Certificate Examination is modified so as to conform to these recommendations.

The danger of regarding this examination as the main objective of grammar school education; the use of school records

10. We have said nothing so far about one of the gravest results of the present system, the danger, well recognised by teachers, that the examination should be regarded alike by parents and children as the main, or even the sole, objective of the education given in the Grammar School. "The modern mania for examination results," one of our witnesses said, "renders many recipients of the School Certificate less cultured and efficient than they might have been without it." As a curriculum comes into being which may be thought of "in terms of activity and experience rather than of knowledge to be acquired and facts to be stored," we may be sure that children will increasingly find a value in what they are studying for its own sake, and form interests quite unrelated to any extraneous objective or resultant advantage. The more closely, however, the work of a school approximates to that

[1] Among these we include for this purpose papers in particular sciences.

idea the less likely will it be that any single external examination can test adequately the knowledge that children have assimilated, the skills that they have acquired, and the powers of originating, persevering and enjoying that they have developed. The ablest children will continue to pass such an examination, and the least able will continue to fail. But, at least for those who are near the border-line between success and failure, the estimate will be more just if it takes into full account the knowledge and experience of those who have watched them at different stages of their growth, who know something of their home conditions, and have seen them working in the normal conditions of school life.

It was pointed out to us in evidence that, in so far as matriculation requirements are dissociated from School Certificate requirements, consultation with teachers may become even more important, and that there should be fewer objections to it on the part of examining bodies. We believe that the changes which we have advocated will render it more difficult for examiners to assess the results of school work without having before them school records, and in the event of these changes being adopted we think that school records should be brought increasingly into consideration in connection with the award of Certificates, provided that this can be done without lowering the esteem in which the examination is held by professional bodies and employers. It has been represented to us that this practice will be wholly in conformity with the main purpose of the examination as originally conceived.

CHAPTER VIII

TECHNICAL HIGH SCHOOLS AND OTHER TECHNICAL SCHOOLS

PART I.—TECHNICAL HIGH SCHOOLS

1. In our Report on *The Education of the Adolescent* (1926) the aims and work of Junior Technical Schools did not receive more than brief mention in Chapter I (pages 32–33) and in Chapter II (pages 64 to 68), and three recommendations No. 13, 14 and 15 on pages 176 and 177 of the Report in question. These recommendations recognised that both types of Junior Technical School, viz., the Trade School which trains pupils for particular occupations, and the school which trains pupils for the general group of industries connected with engineering in its various branches, "are doing valuable work within their own province and should be encouraged wherever the needs and requirements of local industries provide an adequate demand." The terms of this recommendation might have been taken to imply that these schools were only partly in the sphere of education and that their encouragement and development was rather a matter for the industrial than for the educational world.

On the other hand, in the final paragraph of the historical chapter of that Report (pages 34–35) it was pointed out that at every stage of development there had been a tendency to throw up experiments in post-primary education, and that this fact in itself seemed to indicate the half-conscious striving of a highly industrialised society to evolve a type of school analogous to and yet distinct from the Grammar School, and providing an education designed to fit boys and girls to enter the various branches of industry, commerce and agriculture at the age of 15.

The aims and salient features of Junior Technical Schools based on the engineering and building industries

2. Our terms of reference, make it necessary to give a more detailed consideration to the aims, objects and work of the Junior Technical Schools, and to determine their actual and potential relation to secondary schools of other types. Since very little is known about these schools, except by the comparatively small number of teachers, administrators and

inspectors who are in actual association with them, we have collected a large body of evidence both oral and written bearing on their work, and have visited a number of representative schools so that we might obtain for ourselves a true picture of their work, of the conditions under which that work is carried on, and of their staffing, equipment and corporate life.

We find that both in the industrial and educational spheres there has been considerable ignorance and much misunderstanding as to the aim and scope of these schools and of their undoubted contribution to education, and we are accordingly making recommendations which we hope will bring about a fuller recognition of the efforts which are being made to evolve a type of secondary school providing a liberal education based on a more realistic and scientific curriculum than that of a Grammar School. We have come to the conclusion that although these Junior Technical Schools may have as their general aim the provision of a liberal education for those who intend to enter industrial occupations, nevertheless their curriculum, and the method of its treatment, will also develop best the ability of certain types of pupil, whatever occupation they may subsequently adopt.

How these schools have surmounted the danger of premature specialisation of a vocational character

3. Much of the fear of 'vocationalism' and of early 'specialisation' in secondary schools has arisen through misunderstanding and failure to define these terms and to face the facts of all educational development. It is not always realised how much truth there is in the view expressed in a memorandum submitted to us by a distinguished American educational administrator, Dr. John L. Tildsley, of the New York Board of Education. "There is no subject," he wrote, "in the curriculum of any type of vocational school for any age of boy or girl that might not be liberalised while at the same time furnishing the highest degree of vocational effectiveness."(1) Certainly, in any subject worthy of inclusion in a school curriculum it should be possible to lead the pupil to look beyond the immediate processes in which he is engaged to a wider human and social background. A subject which requires the extreme accuracy of working necessitated by many forms of workshop training can scarcely fail to provide a real moral and intellectual discipline. The dominant position in liberal education held so long by the

(1) See Appendix II.

study of Greek and Latin was largely based on the claim that that study combined a similar insistence on accuracy with an understanding of the place of classical literature in human life and history. Any subject which is so taught as to perform this dual function, demanding a high standard of accomplishment and at the same time awakening in the learner a sense of its wider meaning, serves in a sense the same end, whether in conventional terminology, it is called academic or technical, liberal or vocational. Its effect is the same, "the unfolding", to quote Dr. Tildsley again, "of all the powers in the man, the making of them usable to the utmost degree in the special phase of production or the special phase of living in which he may chance to engage".

From what we have seen and heard, we are satisfied that it is the aim and purpose of Junior Technical Schools to liberalise every subject in their curriculum. We find that the teachers do in fact combine a high standard of working with a real regard to the wider aspects of their subjects. Their wide experiences are a great assistance to this end, since a very large proportion of technical teachers have had industrial as well as academic training and the great majority of them are also partly engaged in teaching adult students.

We have found in the schools we visited an atmosphere of vitality, keenness and happiness that was not only refreshing, but afforded a sure index that the curriculum and its methods of treatment so appealed to the pupils that the process of education was developing smoothly and unrestrainedly.

The two main groups of Junior Technical Schools

4. The existing Junior Technical Schools fall into two groups. In the one group are those schools (the Trade Schools) which are frankly and definitely preparing their pupils for entry into a specific occupation within an industry. They aim at continuing and enlarging the general education of their pupils and also at developing a substantial measure of personal skill in the processes of the occupation for which these pupils are being prepared. As a rule about one half of each educational week is devoted to general education and the other half to the acquirement of the particular craft or skill. It should however be noted that the number of school hours per week is greater than in other types of secondary school and that the general educational content is accordingly more extensive than would appear on a first view. These Trade Schools recruit pupils at the age of 13+ and as a general rule

provide a two-year course. They are almost confined to the London area and till recently they were known as 'Trade Schools' though the London County Council now describe them as 'Junior Technical Schools'.

In the second group of Junior Technical Schools the outlook and the educational provision are different. Their aim is to provide an educational foundation and background for those pupils whose broad intention is to enter industry on leaving school about the age of 16. The object of these schools is to provide a wide and general education which will enable their pupils to adapt themselves to whatever conditions they may meet and upon which they can build their further education in more specialised directions according to the branch of industry and the form of occupation which they select.

It is desirable at this stage to point out that there is a great difference between the deliberate preparation of a pupil for entry to one specific occupation or trade within an industry and the provision of an educational foundation for entry to an industry or group of industries, within which there are many occupations and trades. The great industry of engineering is an example which may best be taken because of the fact that most of these Junior Technical Schools have drawn up their curriculum with entry into engineering as the broad objective of their pupils. The engineering industry is many-sided. Its main groups are civil, marine, mechanical, electrical, aeronautical, automobile, railway and shipbuilding. Each group has various branches and within each group or branch there are many different occupations, manual, mechanical, scientific, artistic, technical, administrative and commercial. The field is therefore very wide and the Junior Technical Schools based on the engineering industry provide the broad educational foundation suitable for the pupil whose intention is no more definitely expressed than by his saying in effect, "When I leave school, I think I would like to be an engineer of some sort".

The curriculum of Junior Technical Schools bearing on the engineering industry

5. It is clear that there is nothing narrow in the educational preparation for entry into so wide a field, and the Junior Technical Schools based upon the engineering industry have neither professed nor attempted to turn out ready-made

engineers. They have framed an educational curriculum on a broad scientific and realistic basis. In the first place, they teach the engineering subjects so as to develop a grasp of principles and to cultivate a scientific imagination, and in the second, their curriculum gives a place to English subjects comparable with the place assigned to them in Grammar Schools. We are strongly of opinion that for certain types of children the education provided by this curriculum and the practical method of approaching the different subjects, e.g., science, mathematics and engineering drawing, will best develop their ability and in consequence is indeed the most appropriate course for them whatever occupation they may eventually choose.

Nomenclature : Technical Schools and Technical High Schools

6. Before proceeding further we must deal briefly with the problem of nomenclature in relation to Junior Technical Schools. In the first place we urge that the word ' Junior ' should be abandoned. This word was first used to indicate the relation of these schools to those Technical Institutions and Colleges in which they were usually housed and which themselves provide Senior and Advanced Courses for students of post-secondary standard. So long as the word was used in this sense it was comprehensible, and conveyed some meaning to those engaged in the administration of these colleges and institutes; but we regard it now as a matter of primary importance that the nomenclature of schools should be understood not merely by administrators and teachers, but also by parents and employers and all sections of the educational world. The word ' Junior ' as used in relation to schools at the present time is usually understood as describing a Primary School for pupils between the ages of 7+ and 11+. *We accordingly recommend that the name* Technical School *be used as a general term to describe all those Junior Technical Schools which recruit at the age of* 13+ *and provide a course of two or three years duration. This will embrace both the specifically vocational Technical School and the Technical School providing a two or three-year course in preparation for entry to the engineering and building industries without restriction to any particular occupation within those industries. We further recommend that those Junior Technical Schools which are accorded equality of status with secondary schools of the grammar school type having an age of recruitment of* 11+ *and providing a five-year course shall be known as* Technical

High Schools. Though we recommend these terms for the purpose of official classification, we expect and hope that each individual school will have its own local name, and we think that as far as possible this name should be descriptive of its work. The titles of most of the London Technical Schools provide good examples of what is in our mind.

Recruitment of pupils at the age of 11+ *for the proposed Technical High Schools; transfer of pupils at the age of* 13+

7. We fully realise that *in selecting children at the age of* 11+ *the wishes of the parents, assisted by the advice of the Heads of the contributory schools, should always have a predominant weight in determining the choice of school for children of that age. But there should be another age point, namely* 13+, *in all schools at which transfers should, if desirable, be made from one type of school to another* with the object both of eliminating any misfits which may have occurred, and with the purpose of encouraging any special aptitudes which may have developed in children between the ages of 11+ and 13+, and furthermore of allowing a change of choice on the part of the parents. The establishment of a more or less common curriculum for pupils between the ages of 11+ and 13+ in all types of secondary schools would render it comparatively easy to effect mutual transfers at the age of 13. We feel very strongly that the advantage gained by placing a child in the educational environment best suited to his or her aptitudes and interests far outweighs any disadvantage caused by having a second 'break' at this age. Indeed, if an approximately common curriculum were provided for children between the ages of 11+ and 13+ the disadvantage of a possible break at 13 would be almost wholly confined to matters associated with the corporate life of the school. We do not attempt in any way to minimise this disadvantage but we feel strongly that if a child be transferred to a school which makes an immediate appeal to his interests and aptitudes he will necessarily be happier, will do better work and will rapidly develop in his new environment, thus falling automatically into line with the corporate life of the new school.

At the present time and under the existing administration, the Technical Schools do not admit pupils before the age of 13+. The Grammar Schools have hitherto secured the majority of the more gifted pupils from primary schools by means of the selective examination at the age of 11+. Secondary schools of other types, more especially selective

Modern Schools, have secured those candidates on the examination list who were just not able to gain admission to Grammar Schools. Thus up to the present the Technical Schools have been at a great disadvantage in respect of the quality of the pupils who were admitted to them at the age of 13+. It may also be said at once that the number of pupils transferred from Grammar Schools to Junior Technical Schools and vice versa at the age of 13+ has hitherto been negligible.

This state of affairs has had a serious social consequence. The natural ambition of the clever child has been turned towards the Grammar School and the professional occupations rather than towards Technical High Schools and industry. This tends inevitably to create a disproportion in the distribution of brain power as between what may be broadly termed the professional and industrial worlds. Furthermore, there is the regrettable and undesirable difference in social esteem. We are concerned to secure and to emphasise the parity of all types of secondary school, but there is no point at which this is sociologically more important than in regard to the relative position of the Grammar Schools and the proposed Technical High Schools. We believe that our constructive proposals will, to a great extent, help to remedy these serious defects in our educational system.

Technical High Schools providing a five-year course for pupils between the ages of 11+ *and* 16+

8. We are convinced that *it is of great importance to establish a new type of higher school of technical character, wholly distinct from the traditional academic Grammar (Secondary) School, and as a first step to this end we recommend that a number of the existing Junior Technical Schools which at present provide a curriculum based on the engineering industries (and among these we include the building industry), and any others* [1] *which may develop training of such a character as* (a) *to provide a good intellectual discipline, altogether apart from its technical value, and* (b) *to have a technical value in relation not to one particular occupation but to a group of occupations, should be converted into Technical High Schools in the sense that they should be accorded in every respect equality of status with schools of the grammar school type.*

[1] Such for example as a School of Navigation designed to prepare boys to go to sea as apprentices with the object of becoming Navigating Officers.

We recommend that the age of recruitment for these schools should be 11+ *and that the method of recruitment should be through the general selective examination by which children are recruited for the Grammar Schools. The selection of children for the Technical High Schools should be made (from those children who have attained the necessary standard in the examination) in accordance with :—*

(*a*) *the choice of the parents ;*

(*b*) *the report of the Head of the primary school ; and*

(*c*) *the result of an interview of the child and its parent or parents, with the Head of the Technical High School, and a representative of the local education authority.*

We attach considerable importance to an interview of this character, both in the interests of the children and their parents, and as constituting a really valuable step in the process of selection.

The curriculum for pupils between the ages of 11+ *and* 13+ *and the curriculum for pupils above the age of* 13+ *in Technical High Schools*

(9) In making these recommendations *we consider that the curriculum for pupils between the ages of* 11+ *and* 13+ *in these proposed schools should be broadly of the same character as the curriculum in other types of secondary school of equal status.* We recognise that from the first there might be a somewhat different method of approach arising out of the different environment but this difference need not and should not be carried so far as to preclude the transfer of any pupil at the age of 13+ to or from an ordinary Grammar School or any other type of secondary school. A foreign language would, of course, be included.

For pupils of 13+ *and onwards the curriculum should be designed to provide a liberal education with Science and its applications as the core and inspiration.* The subject matter would be English, History, Geography, Mathematics, Science, Engineering Drawing, practical crafts in the workshops, Physical Education and aesthetic subjects together with a continuation of the foreign language for those pupils capable of profiting by it.

It might be thought that this curriculum does not differ greatly, if at all, from that of the science side of the normal

Grammar School, and we agree that in the matter of subject titles there is close approximation. It is in the methods of approach and treatment that the interpretation of the curriculum in the Technical Schools differs so materially from that of the Grammar Schools, and it is difficult to translate this difference into words except through the medium of a detailed teaching syllabus. The Technical School has first hand knowledge of the application of science both to the processes of manufacture and to the operation of the devices and plant manufactured, and it is through this knowledge that it makes its approach to science and gives it a different emphasis and a different treatment. It is not hampered by ready-made examination syllabuses and it is competent to seize upon the desire of its pupils to know 'how things work' in order to lead them back to a knowledge of natural phenomena and its laws with a realistic sense of balance and emphasis.

We do not think that this note on the curriculum of the Technical School requires any further expansion. We merely urge that its interpretation be continued along the lines already in existence and already well known to those members of the Inspectorate of the Board of Education whose particular duty it has been to report upon the work of the Technical Schools.

We must, however, draw attention to the provision which we recommend in the curriculum for the continuance of a foreign language right through the school for those pupils who are capable of benefiting by it.

In the past the Junior Technical Schools have been discouraged from their attempts to introduce a foreign language into the curriculum of the 13 + age-group, but we are of the opinion that *a foreign language—preferably German—should be provided It should not be a compulsory subject for all pupils, but it should be available for those pupils who have shown that they are capable of profiting by it.* In making this recommendation, however, we would emphasise that we are not thinking in terms of examination requirements.

Finally, we offer an example of time allocations of the suggested subjects. The example is not intended to have the force of a recommendation and we realise that the time allocation of subjects will probably vary in the successive years of the course.

In a school week of 27½ teaching hours, an average allocation of subjects in terms of hours per week might be :—

English subjects	6 hours
Mathematics and Science	8 hours
Workshop	4½ hours
Engineering Drawing (including Practical Geometry)	3 hours
Physical Training and Aesthetic subjects ..	3 hours
Pool	3 hours
	27½ hours

We have chosen hours per week instead of 'periods' because of the fact that the subjects and methods do not admit of equal periods and in such work as Drawing, Workshop and Laboratory practice longer periods will be required for each lesson.

The time required for the foreign language would be taken from the pool, and those pupils who do not take the foreign language would be given extra time from the pool for other subjects according to circumstances and needs.

Accommodation for Technical High Schools; government and administration

10. Several important points emerge from our recommendations, namely, the question of suitable accommodation; staffing and equipment; the fees of pupils at Technical High Schools; the granting of an appropriate leaving certificate and the general relation of any such leaving certificates to the certificates granted on the result of the School Certificate Examination.

On the question of accommodation we have no doubt that, *where possible, Technical High Schools should be housed in the premises of Technical Colleges and Technical Institutes.* The Technical High School would be a department of the college and the Head Master of the school would be the Head of that department.

This arrangement would necessarily vest the ultimate control of the school in the Principal of the college. At the present time the majority of Technical Schools are in fact so controlled and thus no new principle is being introduced. It is evident that the technical equipment of the various

departments of the college or institute can best be made available for the pupils of the school through the Principal and that he can most effectively secure and maintain the co-operation and interest of the Heads of the specialised departments and their staffs in the work and life of the school.

Moreover, the Principal is in close contact with local industries and is thus in the best position to direct and regulate the flow of pupils leaving school both into industry and into the senior full-time and part-time courses of the college.

The general atmosphere of the college, which is largely attended by adult students, is a constant stimulant to the pupils of the school, and the fact that its pupils have the privilege of using the laboratory and workshop equipment, much of which has been installed primarily for senior students, is a great advantage. Furthermore, there is much evidence to show that the contact of the pupils of the school with many members of the college staff who are also concerned with teaching adult students has a beneficial effect both on teachers and pupils.

In cases where it is not possible to house the Technical High School in a Technical College we think that it is most desirable that its buildings should be linked with the buildings of the college in order to facilitate this participation in equipment and staff.

In the Technical High School the general conduct, the discipline and the corporate life are necessarily distinct from those of the college, and for all these the Head Master is responsible. *We suggest that a Sub-Committee of the Governors should be appointed to manage the school, that the Head Master should have direct access to this Sub-Committee and that the appointment of teachers exclusively engaged in the work of the school should be made after consultation with him.* Subject to these provisions we are satisfied that the organisation and administration of a Technical College through its Principal and Heads of Departments allow a sufficient measure of autonomy to the Head Master of the Technical High School, whilst securing the vital contact of the school with the equipment and the staff of the college which we regard as of primary importance.

Fees

11. On the question of fees we need only say here that *the fee system in Technical High Schools and in Grammar Schools*

in the same area should be the same, since otherwise whichever school has the higher fee system, will be regarded by some parents as being superior in status and they will accordingly seek to enter their children for the school which they regard as having the higher social standing irrespective of other considerations.

Leaving Certificates for pupils in Technical High Schools

12. *We strongly recommend the establishment of a new type of leaving certificate for pupils in Technical High Schools.* We have been impressed by the fact that Junior Technical Schools have been hitherto wholly free from any system of external examination, and by the emphatic statements made by witnesses representing these schools that this freedom from examination has been an important and vital factor in the successful development and progress of schools of this type. We would not, therefore, seek to impose upon the Technical High Schools any system of external examination with the necessarily uniform and rigid syllabuses which would inevitably follow in its wake. We think, however, that in order to give reality to our recommendations for the complete equality of status as between Technical High Schools and Grammar Schools, and also in order to bring before parents, employers and the public generally, the fact that these schools are of equal status with the Grammar Schools, some kind of school leaving certificate having general currency is required if it can be provided without the imposition of a rigid external examination. We are of opinion that such a certificate could be instituted by means of internal examinations based on the school curriculum, and subject to external assessment by assessors appointed or approved by the Board of Education, in order to afford an adequate guarantee for a uniform minimum standard of certification in Technical High Schools throughout the country. The leaving examination which we recommend would be conducted on lines similar to those in use for the existing examination for National Certificates—a system which the Technical Colleges know well, and which has produced excellent educational results since its inception some 15 years ago. In this system the examination papers are set for each school individually by the school authorities, the external assessors having power to alter 40 per cent. of the draft papers. The scripts are marked by the school staff, and these marked scripts are then forwarded to the assessors, who may lower or raise the marks assigned for any

answer. The final allotment of marks is made by combining the marks obtained by the examination, after assessment, with the marks obtained for class work and preparation work at school during the year; giving 70 per cent. of the examination marks and 30 per cent. of the class marks to determine the final position.

We recommend that some similar system of school leaving certificate should be adopted for Technical High Schools. These certificates must carry weight, and to that end it is essential that they should be endorsed by the Board of Education. We suggest that only Technical High Schools approved by the Board of Education should be allowed to award these leaving certificates, and we recommend that before according approval the Board of Education should satisfy itself fully in regard to such matters as the curriculum of the school; the sufficiency and qualifications of the staff; the adequacy of the premises and equipment; the arrangements for the examination; the methods and standards of assessment, and the assessors. We do not propose to go into detail on this point, as we are fully satisfied that such a system can be carried out easily and effectively by the Board of Education in collaboration with the school authorities, and we have sufficient evidence through the successful working of the system of National Diplomas and National Certificates for Senior Classes in Technical Colleges to satisfy us that there would be no real difficulty in putting into immediate operation such a scheme as we advocate. The leaving certificates would be endorsed by the Board of Education, and on these there would be clearly set out the attainments of the holders in all the work done in the Technical High School.

This recommendation may strike some as being revolutionary: others may feel that it gives too much freedom to the schools: others again may feel that it reposes too much confidence in the teachers.

So far as the first point is concerned, the system we suggest is not as revolutionary as it may seem, for it exists in Senior Technical Courses and, in effect, it has been the system of our Universities for generations. But even if it were revolutionary, we should still advocate it as an experiment designed to determine whether we can obtain a method of certification of attainment for pupils on leaving school which shall allow a wider freedom of curricula, and of the educational process generally, than can be obtained through the comparatively rigid and uniform curricula which must necessarily follow a common external examination.

On the question of freedom of the schools and confidence in the teachers we have no fears. We are satisfied that the schools will use any freedom they can get in the best interests of their pupils, and that the teachers will use the confidence reposed in them with a high sense of their obligations to the community.

One further important point we would establish is that this leaving certificate of the Technical High Schools and the "School Certificate" should be regarded as equivalent i.e., equally creditable to their holders, of equal value in their respective fields, and equally acceptable as fulfilling the first condition for matriculation.

The importance of close co-operation between the proposed Technical High Schools and employers

13. In the course of our inquiry we have considered the evidence of industrialists and of many individual firms, representing most of the basic industries of the country. We find that there is much ignorance and misunderstanding of the aims, scope and work of the Technical Schools. On the other hand some individual firms are well informed about the work, and spoke in the highest terms of the capability and adaptability of the pupils. We have no doubt that industry as a whole will have an equal appreciation of these schools, when the precise character of the education and training given by them becomes known. In this context we think that education authorities might be well advised to give greater publicity to the aims and character of their Technical Schools, both to industry and to the general public.

There are two important matters which we think should receive the earnest and immediate consideration of industry. The first relates to the age of entry and the period of completion of apprenticeship or its equivalent in the engineering groups. There appears to be no uniformity of practice. Some firms refuse to accept a boy for apprenticeship after the age of 16: some firms will accept a boy after 16, but demand that his apprenticeship shall not end until five years after the date of his acceptance: some firms will accept him after 16 and will remit a period of apprenticeship equal to the period between the date of his sixteenth birthday and the date of

his entering their works, provided that he has been a pupil in a Technical School: some firms will remit one year of apprenticeship to a boy who has satisfactorily completed a three-year course at an approved Technical School after the age of 13+. It is our view that a wise industrialist will be prepared and even eager to take as apprentices boys who have completed a technical school course at the age of 16+ and should at least grant remission of that period between the sixteenth birthday and the date of actual commencement of apprenticeship, so that in all cases the apprenticeship would be completed on the twenty-first birthday. There could be nothing but advantage to the individual industry, to the boy and to the schools if this plan were universally adopted by those industries which have a five-year basis of apprenticeship or its equivalent. We would urge therefore that this matter should receive the urgent and sympathetic consideration of industry—by which we mean not only the Federation of British Industries, and other organisations of employers, but also the Trade Unions—and that a definite pronouncement of policy should be made.

The second point relates to the form and character of the qualification which is required by employers as evidence of a good general education. We have had evidence that many engineering firms are not prepared to accept boys for some forms of apprenticeship unless they possess a Matriculation Certificate, or its equivalent.

We are now unhesitatingly recommending the establishment of Technical High Schools,which shall have complete equality of status with Grammar Schools. We are also urging that they should not be subjected to any system of external examinations, but that they should examine their pupils under an internal system, duly approved and assessed by the Board of Education, and that they should issue a form of school-leaving certificate. We are anxious that the proposed Technical High Schools should not present their pupils either for the School Certificate Examination or similar examinations, and we desire that our scheme of school-leaving certificates shall be given every chance to establish itself. To this end, we have urged that these certificates should be regarded as an equal token in all respects to the certificates of the School Certificate Examination obtained from the Grammar Schools. We ask employers to co-operate with us in this and to accept the proposed new school-leaving certificates of the Technical

High Schools in the same way as they now accept the certificate of the School Certificate Examination.

The historical significance of the curriculum which has been 'evolved' in Junior Technical Schools based on the engineering industry

14. A steady development of educational work has been going on almost unseen in our Technical Schools and Colleges during the past 30 years. Without any traditions and almost without any administrative restrictions they have experimented and progressed. They started with the specific purpose of providing an education to meet the immediate needs of those engaged in industry. Through that they discovered on the one hand the requirements of the industrial world and on the other the limitations in the existing educational background. Gradually, from the provision of the narrowest kind of trade or vocational classes they developed courses dealing with fundamental principles. Naturally the teaching of those principles was coloured—and vitalised—by first hand knowledge of their applications and they boldly rejected the purely academic and did not hesitate to stimulate learning through technical application.

From their experience in teaching adults they proceeded to develop schools for adolescents. As a matter of history, the first schools which so developed were the vocational schools preparing for entry into a particular occupation or trade within an industry. Then came the schools which prepared for entry to a specific industry or group of industries without restriction to any particular occupation. In the development of this type of school they framed an educational curriculum on a broad scientific and realistic basis in which they gave a place to English subjects comparable with that assigned to them in Grammar Schools. We are confident that our recommendation for the establishment of Technical High Schools will add a valuable contribution to educational provision.

PART II.—OTHER TECHNICAL SCHOOLS

Junior Commercial Schools and Home Training Schools

15. We have considered very carefully whether Junior Commercial Schools and Home Training Schools[1] should be developed into additional types of Technical High School

[1] We prefer this term. The present official description by the Board of Education is Junior Housewifery Schools.

and should recruit at 11+. We are entirely convinced of the importance of the work done by these schools and of the real educational value in themselves of the special subjects, as these are often taught. We are not satisfied, however, that either form of education affords a full alternative to a grammar school education. In order to reach that conclusion, we should have to hold that a number of children who have sufficient academic ability to profit substantially from a Grammar School, and whose parents are willing that they should remain at school till the age of 16, should go to a Technical High School based on commercial subjects or homecraft as the case might be. We believe that this will be true in the case of schools based on engineering subjects for the reasons we have given. At least so far as present experience goes, we do not think that a similar statement can be made in regard to schools based on either of the other groups of subjects. It is possible that further experience and further development of the schools in question may lead to a different conclusion. We think, however, that this is improbable and that the true future, in our judgment the important future, of commercial subjects and homecraft lies rather in full-time courses at Technical Colleges after leaving school, or for certain pupils in Junior Technical Schools recruiting at 13 or 14, and also in greater provision for these subjects both in Grammar Schools(1) and in Modern Schools.

Our reasons for holding this view are implicit in what has been said in regard to Technical High Schools based on engineering. The technical subjects which would be taught in such schools are grouped round and built upon a range of systematised knowledge and theory which on the one hand is within the grasp of pupils of the relevant ages and on the other hand affords an intellectual discipline comparable to that of a grammar school education. In the case of commerce, the study of economics affords corresponding co-ordination of experience and relation of particular problems to general theories. In our judgment, however, a study of economics, capable of playing this part to any considerable extent, is almost certainly beyond the capacities of pupils under 16. In the case of the Home Training Schools we find that, as with the Junior Commercial Schools, there does not seem to be a suitable corpus of subjects to form a curriculum comparable with that of a Grammar School. In General Science the

(1) We have in mind primarily Sixth Form courses, but also a limited provision of courses of instruction after the age of 14.

chemistry of cooking, for example, is far too difficult and complicated to supply what is required. We think, in consequence, that the necessary basis of General Science is best taught in Grammar Schools and in Modern Schools, and then specialised and applied in the higher Forms of these schools or in Home Training Schools to which girls are transferred on the completion of their ordinary school careers.

Junior Commercial Schools

16. We have already expressed the opinion that strictly vocational subjects should not be begun before the pupil has secured a good groundwork in all the general subjects.[1] But there appear to be some pupils, perhaps a considerable number, whose interest in acquiring this groundwork can be fully maintained only by the relation of these general subjects to others of more immediate practical value; and experience has shown that the introduction of these other subjects alongside, and in relation to, the general subjects often vitally and advantageously affects the whole education of these pupils.

We have examined the time-tables and the curricula of a number of typical Junior Commercial Schools, and we find that only about one-third of the total time is devoted to subjects that are directly vocational. This means that the general education is continued up to the age of 15 or 16, although, as would be expected, there is a tendency to stress the commercial side of the general subjects; and it is hardly necessary to say that we welcome this continuation of the general subjects for pupils up to these ages. The success of these schools in commercial subjects is due to the circumstances under which the work is carried on—appropriate equipment, teachers fully qualified in one or other of the commercial subjects (some teachers having had also commercial experience) and the general atmosphere of definite purpose in the work of the Commercial Schools as a whole.[2]

Home Training Schools

17. In Home Training Schools, we have a much smaller body of experience from which to draw conclusions. Out of a total of 220 Junior Technical Schools there are only 9 Junior Housewifery Schools giving this training. Such evidence as we have, however, shows that in these schools,

[1] See Chapter IV, p. 178.

[2] See Report by the Committee of the Faculty of Teachers in Commerce, *Report on Facilities available for Commercial Education in Day Schools under Local Education Authorities* (1938).

also, the general education in a modified form has to be, and is, continued with pupils recruited at the age of 13 or 14. About half the school time is allotted to general subjects, while some of the practical subjects such as Art and Needlework usually form part of any girl's general education. Therefore, the opinion, formerly held by many parents, that these schools provide a training merely for domestic service is contrary to fact. Whatever in the past may have been the courses of work, the present courses offer a wide range of subjects, including some general science in its application to the many factors which make up the daily routine in a modern house.

A brief consideration of the matters involved in the intelligent management of a household shows how wide these courses may be. Personal health and hygiene, including First Aid, cooking, sewing, cleaning, laundry-work, ventilation, sanitation, heating, lighting, water supply, the furnishing and decoration of rooms, and the use of various appliances, together require a wide range of knowledge in which simple mathematics, elementary general science and art are obviously essential. Furthermore, a background of history and literature and a considerable vocabulary are essential to enable the pupil to make full use of the many books, magazines and pamphlets published specially in the interests of the home. Outside the home women are intimately concerned with a number of social services, and they are no less concerned than men to give thought to general matters which may affect the country as a whole and their own locality in particular. To be of any value such thought requires an even wider knowledge in the English subjects, and a considerable degree of general education. In these schools, therefore, the vocational trend directly affects a wide range of subjects with a consequent stimulation of the pupil's interest. Moreover, as the course tends to reflect the environment of the pupils they more easily understand the knowledge which underlies what is already familiar.

A home training course thus liberally interpreted creates for the pupil a wide field of opportunity. While it is an excellent training for home duties or domestic service it provides a good foundation to the further and more specialised training required for welfare workers, women supervisors in hotels, boarding houses, large stores and the catering trades. It is also useful as a preliminary training for girls proposing either to become children's nurses or to enter the nursing profession.

The place and significance of quasi-vocational subjects in the curriculum for pupils under the age of 16

18. These facts all emphasise the view that with pupils admitted at the age of 13 or 14 the general education must be continued even though the future career of the pupils is supposed to have been decided. This is not only true as a broad principle, but it is fundamental to the effective teaching of the vocational subjects. On the other hand, the evidence is clear that the whole education of certain pupils is beneficially affected by a limited and carefully considered introduction of such subjects at this age. At the same time we are of opinion that when and wherever this work is begun there should be adequate equipment, suitably qualified teachers, and a sufficient allowance of time, in order that a useful standard of attainment may be reached. We think it highly important, therefore, that where economically possible there should be somewhat greater provision of equipment and qualified teachers than at present exists for the teaching of Commercial Subjects and Domestic Science alike in Grammar Schools and Modern Schools and also in special schools admitting pupils at a later age than 11+.

Trade Schools

19. Trade Schools are few in number and almost without exception are established only in London. The pupils prepare definitely for specific trades and both parents and pupils understand that this is the case and that the specific trade for which this preliminary training is being given is the occupation which the pupils propose to adopt. Their future prospects appear to be safeguarded by the number of admissions being regulated according to the probable demands of the individual trade or occupation. We desire, therefore, to reaffirm the view which we expressed in our Report on *The Education of the Adolescent* (1926) that these schools "within their own province are doing most valuable work and should be developed as far as is possible in accordance with the needs and requirements of certain local industries." We are also convinced that admission to these schools should not be obtained at an earlier age than 13+ and we would prefer 14+. We think that in areas where there is a steady demand for the entry of young people to permanent employment in established trades, schools of this type are justified.

We are acutely conscious of the fact that the tendencies of manufacturing processes to quick and radical changes

seem to indicate that the educational training in Trade Schools must be such as to develop versatility. We are satisfied, however, that this need is fully recognised by those in control of the schools.

Transfer of pupils

20. There are two further points to which we wish to draw attention. We have no doubt that certain pupils who have been educated in Grammar Schools up to the School Certificate standard may do best, for vocational reasons, to transfer about the age of 16 to full-time courses at Technical Colleges. It is important, however, to recognise that courses for such pupils would have to be carefully designed and well taught. Courses extending over two years should be available and in certain cases (e.g., courses for prospective nurses) even longer courses may be desirable. We deprecate, however, in general transfer at an earlier age from a grammar school course to a Junior Commercial School or a Home Training School; since we believe that, if a pupil is profiting substantially from a Grammar School, loss and not gain will ultimately result from narrowing and specialising his or her education at an earlier point to the extent which would be involved. When, however, the pupils are not profiting from a grammar school course, a marked improvement in their general and intellectual development may result by transferring them to just such realistic and vocational courses as are provided in 'Junior Technical Schools'(1), which we have already suggested should in future be described as Technical Schools.

Junior Art Departments

21. There remains the question of Junior Art Departments. Much of our evidence as to these was tinged by satisfaction with the present and optimism for the future. Yet there was throughout an insistent note that these departments should be established not simply because facilities exist for them, but only when they are judged to be the best means of securing the future careers of the pupils, in areas with specific local industries in which design plays an important part or in which artistic ability is an important asset. *Before, therefore, a local education authority decides to add to its Art School a Junior Art Department, it should be satisfied that the necessary variety of teaching power in Art subjects can be found only in the*

(1) See p. 338 and p. 273.

Art School, and that the future occupations of the pupils are of such a character that specific art teaching cannot be deferred until the age of 15 *or* 16.

We do not believe that these specialised departments afford the best means of giving a general artistic training to boys and girls. Attendance at a Grammar (Secondary) School with a sympathetic leaning towards art teaching, followed by full-time attendance at an Art School, for which the scholarship schemes of most local authorities provide the means, is a far more suitable alternative for pupils who require a general rather than a specific training in art.

A Junior Art Department, in our judgment, ought to be regarded as a junior department in an Art School rather than as a school in itself. These departments are included by the Board of Education in the category of Art Schools: they are not included in the general list of Junior Technical Schools, among which are to be found all those schools whose special purpose it is to teach a definite trade or occupation. In so far, however, as they correspond to any other kind of school, they correspond most closely to 'Trade' schools for those trades for which artistic ability is of primary importance. Only a small amount of time is, as a rule, given to general school subjects (including Physical Education); rarely more than half the total time in the first year, which may be reduced as the course progresses to as little as a quarter of the total time in the third year. This makes us the more anxious that, even where specific art training is held to be necessary for the children, the local authority should clearly ascertain to what an extent this training may be provided, in the preliminary stage, under conditions in which the children may have the benefit of a wider general education, and of participation in the corporate activities of an ordinary Grammar School; especially if such a school is enabled to use the teaching power and the equipment for crafts and artistic processes of a neighbouring Art School.

The small size of Junior Art Departments proves in many cases to be a serious disability, since with so limited numbers it is very difficult for a healthy corporate life to be developed. We have heard of one case in which it has been found possible to combine with another school for games and other purposes. This at least is a hopeful practice; for the aloofness from ordinary worldly affairs, which is so often characteristic of those who follow artistic careers, is aggravated if they are

debarred during adolescence from mixing freely with their contemporaries in corporate school activities.

Our witnesses expressed the view that the age of 13 was, as a rule, the earliest age at which it was possible to determine whether a boy or girl could with any advantage receive the type of education provided by a Junior Art Department. With this view we fully agree; special aptitudes cannot readily be discerned at an earlier age. We would indeed desire a later age of admission wherever this is practicable; and we think that it might often be made practicable by agreement with those industries in whose interests the Junior Art Department is established. The Head of the Art School (who will also be Head of this Department) is in close contact with the future employers of the pupils. In return for the special advantages which the department may be held to confer, and in amelioration of the disabilities which, apart from their specific art training, the pupils may suffer, employers might well be disposed to agree to a later leaving-age, which would render possible a later age of entry. They might also be induced to provide opportunities for the pupils after they leave school to supplement their Evening Classes in the Art School proper by a substantial amount of instruction during the day time until the age of 18.

Junior Art Departments, which now number about 40 throughout England and Wales, have sprung up in the past 20 years; though some of them are of recent growth, the majority have existed long enough for some general conclusions to be drawn. We would like the line of thought that we have followed to be closely examined. In particular, we would desire that the question of general education should come under examination, as regards both the balance of appropriate subjects and their efficiency, and the number of teaching periods which are given to them in the successive stages of the course. If such an investigation is held by the Board of Education, it will doubtless embrace also such questions as the local circumstances which best justify the establishment of a Junior Art Department, how the disability arising from the size of this department may best be remedied, and what should be the appropriate age of admission.

22. We consider that all the schools which are discussed in Part II of this chapter and such Junior Technical Schools as are not converted into Technical High Schools, should remain under the Regulations for Further Education.

CHAPTER IX

ADMINISTRATIVE PROBLEMS

1. We have discussed at some length in the Introduction to this Report the interesting and attractive proposal for a multilateral type of secondary school. We recognised the many benefits that would accrue when children after the age of 11 were being educated together in the same set of buildings: how in such a school the transfer of pupils at various ages to courses of teaching most suitable for their abilities and interests would be facilitated, and how great an advantage there might be in the close association of children differing in background and objective. *With some reluctance we have come to the conclusion that we could not advocate the adoption of multilateralism as a general policy.* Among the reasons which led us to this decision were the necessarily large size of multilateral schools in general; the relatively small number of children who would be available for the Sixth Form; and the possibility that in this country we might find, as has occurred elsewhere(1), that the prestige of the academic 'side' would prejudice the free development of the Modern School form of secondary education. To these we might add one further reason, important to the administrator, that the general adoption of the multilateral idea would be too subversive a change to be made in a long established system, especially in view of the extent to which this system has been expanded in recent years by the building of new Grammar Schools and Technical Schools, and also in

(1) Dr. I. L. Kandel, Professor of Education, Columbia University, stated in his evidence: "The problem is not simplified even in such a country as the United States, where the single or comprehensive high school, organised end-on with the elementary school, has attempted to meet the needs of all the adolescent population and to provide curricula and courses suited to the capacities of each individual pupil. . . . . It is beginning at last to be admitted that the single school may cater to the average but it does justice neither to the bright nor to the dull pupils, that the attempt to provide general cultural and vocational courses side by side in the same institution tends to militate against the success of both . . . . . Although opportunities for academic, semi-academic and vocational training are provided, the academic courses seem to be preferred by the majority of parents and pupils, despite the fact that manual occupations enjoy a higher status than in less democratic countries."

This swing towards the more academic 'side' had been personally observed, too, in American schools and elsewhere by several members of our Committee.

view of the success with which the ancient framework of the system has, on the whole, borne the strains and stresses to which it has been subjected by the growth of the new type of Modern School.

We do not wish to deprecate experiments in multilateral schools, especially in areas where the last-mentioned difficulties do not arise, as in areas of new population. We hope, too, that the various difficulties may be surmounted in sparsely populated rural areas where a Grammar School and a Modern School may be formed into a multilateral school.[1] The advantages of a multilateral school might, in these cases, be held to outweigh its disadvantages, or the disadvantages might be ameliorated through the personality of a Head Master conscious of the pit-falls which, experience has shown, have most to be avoided.

2. Since we are making no recommendation for the general adoption of the multilateral school, we are not immediately concerned with its special problems. But, throughout our discussion, our assumption has been that each type of secondary school will have its own place in the national system, and that each will have its special educational task clearly in view. The more we tune up a school to play its individual part, the more important it becomes that the child should go to the right kind of school, and that in the great body of schools maintained or aided by the Board of Education and the local authorities, educational considerations alone should determine the parent's choice, just as if the different schools were alternative sides of the same school. *The multilateral idea, though it may not be expressed by means of the multilateral school, should permeate the system of secondary education as we conceive it.* The problems which remain, even after the multilateral solution has been rejected, are similar in kind, and have at least an equal effect upon all phases of educational administration.

"A froward retention of custom", wrote Francis Bacon, "is as turbulent a thing as an innovation"; but he added, "it were good that men, in their innovations, would follow the example of Time itself; which indeed innovateth greatly but quietly." When, in our Report on *The Education of the*

[1] It is important to emphasise that we have in view not merely 'modern' or 'science' sides. What we have in mind is a combination of a Grammar School and a Modern (Senior) School in a single school. We assume that all or practically all Grammar Schools will have 'modern' or 'science' sides.

Adolescent (1926), we proposed that the terms ' primary ' and ' secondary ' should be generally used to describe the first and second stages of education, and urged that education in Modern Schools, while differing in kind, should not be inferior in its promise or quality to the older type of secondary teaching, we anticipated that the complete realisation of our proposals would ultimately involve some innovations in educational administration. The implication of the multilateral idea, that so far as possible there should be equality of status among all schools in the secondary stage, and that the differences between them should be dependent only upon the educational work which they were called upon to do, was accepted in our former Report. Time has quietly prepared us for the more general acceptance of this conception of parity of schools, through a truer understanding of the relations which secondary schools should bear to one another in a national system of education. But the changes in the framework of educational administration have not advanced *pari passu* with the development of educational thought, and the administrative system is still marked in some respects by " a froward retention of custom ".

For the complete realisation of our recommendations regarding curricula and ' the interrelation of schools ', parity of schools in the secondary stage of education is essential. This principle was implicit in our Report on The Education of the Adolescent, and we desire to assert our sense of its importance. The barriers between different types of secondary school which we seek to remove are the legacies of an age which had a different educational and social outlook from our own. Differences in the codes of regulations under which the schools are administered, in the conditions as regards both entrance tests and school fees under which the children are admitted, in the conditions of teaching service, in the amenities of school buildings, in the size of classes and in the minimum school leaving-age, have given to certain schools a prestige which secures their preference on other than educational grounds. If schools of different types are to be made equally acceptable to parents, and opportunities of entering the type of school which can best develop their particular abilities are to be made equally available to the children, equality in the above-mentioned respects is a fundamental requirement. *Throughout this chapter we make a number of concrete recommendations, with a view to ensuring that parity between all types of secondary school may be established.*

3. In our treatment of Administrative Problems, we begin with a minor proposal, that of the ' Small Grammar Schools which incorporate Modern (Senior) Schools ', not in order of importance, but because it presents, as it were, a microcosm of larger problems; and because it connects naturally with proposals contained in our former Report, and may, therefore, have an influence upon schemes of school reorganisation now in process of completion by the local authorities. In the sections that follow, we consider these larger problems in their more general bearings, and other issues of equal importance which are involved in the conception of parity of schools in the secondary stage of education. First we take the fundamental problem of ' Establishments of Teaching Posts '. This is followed by a section on ' School Buildings '. The question of ' School Fees ', the advance in ' The School Leaving-Age ' and the necessity of a Single Code for all forms of secondary education come next. A mention of ' Autonomous Areas ' is necessitated by our recommendation as to a Secondary Code, and by the general consideration of the interrelation of schools. The first part of the chapter closes with ' The Amount of Provision of Education of the Grammar School and Technical High School Types '. The remaining issues are the ' 100 Per Cent. Special Place System ', including a note on the ' Inspection of Private Schools '; and ' The Special Place Examination '. We reach the fringe of our reference with the consideration of ' Post-Certificate Work '. We approach this subject from the administrative standpoint only, and for the special purpose of examining its bearing upon ' the interrelation of schools '. We conclude with a section on ' Transfer of Pupils '.

PART I.—SMALL GRAMMAR SCHOOLS WHICH INCORPORATE MODERN (SENIOR) SCHOOLS

4. *The provision of varied types of secondary education may be assisted in some areas, particularly in those of sparse population, by the combination of a Grammar School with a Modern School in one set of buildings.* The County Councils Association, speaking of the difficulties of single-Form entry schools in scattered areas, suggested that they should be enlarged " by combining in one institution more than one of the existing types of post-primary school ". Other witnesses saw the necessity for a multi-bias school " in certain circumstances in some rural areas ". In general, this would be effected by the incorporation of a Modern School with an already existing

Grammar School. Where this is possible, there are obvious advantages. In staffing, and in the provision of special teaching-rooms, the small Grammar School is often a relatively expensive unit in the educational system. The distribution of specialist teachers in both parts of the school would tend at once to economy and to an increased efficiency. The common use of playing-fields, assembly hall, dining room, gymnasium, library, clinic, craft rooms, science rooms, and staff rooms would relieve the Authority of the necessity to provide twice over some of these costly appurtenances of school buildings of modern design. School transport, too; where this is mainly provided by means of motor vehicles, would be simplified, and reduced in cost.

In the Modern School, courses of teaching suitable for pupils up to the age of 15 would be more easily planned, since this part of the school would share equally the benefits of the wider range of teaching power and the fuller provision of buildings and equipment which we have mentioned. Nowadays, although there is a marked difference in the assessment of school places, there is little material difference in the building requirements for a Grammar School and a Modern School: such a combined school as we suggest would help to remove the difficulties in the way of fully satisfying these requirements in sparsely populated rural areas.

We recognise at the outset that the suggestion we make would necessitate a modification of the Code of Regulations for public elementary schools. We deal later in their more general aspects with the important issues arising from the existence of different Codes of Regulations for the secondary stage of education, and recommend the introduction of a single Code; but we think that this particular difficulty can be surmounted even pending the adoption of such a Code. An Establishment of Teachers such as is described below would, however, be essential for our purpose; and the provisions made would have to be such as to render it possible for a teacher to teach, if necessary, on either side of the school. *We think it eminently desirable that as little differentiation between the two parts of the school should exist in the use of teaching power as in the organisation of general school activities. We do not desire a combination of separate schools under one roof.* We accordingly invite close attention to the later section of this chapter which treats of the important matter of 'Teaching Establishments'.(1)

(1) See pp. 297–301.

5. The normal age of admission would be 11+ as at present, with special provision for an earlier admission at the age of 10+ for children of exceptional promise or ability. The common entrance examination taken by the secondary school age-group in the public elementary schools would afford, as at present, the main criterion for the initial classification of the pupils. *Up to the age of* 13, *the school would be organised on a common basis.* It would not be necessary, during this period, to introduce greater differences in the curriculum of parallel Forms than already exist in many Modern Schools, where a proportion of the pupils follow the more academic course of study which includes a foreign language. At the age of 13, bifurcation would become necessary and pupils would be allotted to the grammar school side, if their parents so wish, and if their place in the common entrance examination, or their subsequent progress, or both, justify this course. We mention these two criteria, because the advantage of deferring transfer till the age of 13 is that it often enables a juster estimate to be formed of the capacity of a child to benefit by a grammar school education than did the examination at the age of 11+. Nor do we consider that the age of 13 is necessarily the latest age at which, in some cases, such a transfer may profitably be made. In this respect, the school would enjoy all the advantages that are claimed for the multilateral school.

It is clear that education in such a school as we suggest would be free until bifurcation takes place. So long as education under the Regulations for Secondary Schools is not free, admission to the grammar school side would be subject to the conditions of the 100 per cent. special place system, and the parents' ability to pay either whole or partial fees would then be assessed. There is precedent in Scotland for schools in which fees are charged for some but not all of the classes. The school would be able to admit also at the age of 11+ children from other than public elementary schools. If the parents wish that such children shall continue their education at a later age on the grammar school side, and if the children are considered suitably qualified to do so, school fees will then become chargeable. Whether a system in which fees are charged for one form of education and not for another can be regarded as permanently satisfactory is a different matter, and one to which we return later.

6. Where the Modern School is non-selective, in order that this part of the school may not unduly preponderate, the area

from which the general transfer of children at the age of 11+ is made will have to be more restricted than the original grammar school area. We consider it important that the grammar school side shall not be submerged, as it may well be if the grammar school element (from the age of 13 onwards) forms less than about 25 per cent. of the whole school. Thus, even after allowance has been made for the different length of the courses, for the existence of a Sixth Form, and for the transfer of pupils not originally intended for a grammar school education, it will be found that the admission of pupils whose parents express at the outset their intention of giving them a grammar school education should be at least one-third of the total number of annual admissions. This is a factor which Authorities would have to take into account before completing their schemes of reorganisation. Pupils from the wider area, whose parents desire them to receive a grammar school education, would, if suitably qualified, be admitted to the school at the age of 11+. Alternatively, they might be admitted to the grammar school side at the age of, say, 13 from a Modern School serving the outer fringes of the area.

We believe that the organisation of a combined school will prove to be more efficient in actual operation, if the modern school side is of a selective character. Where, therefore, a selective Modern School is considered to be a desirable unit in the Authority's general scheme, and where provision can conveniently be made in a non-selective Modern School for the remainder of the children, it will be better if the combined school is not multilateral in the generally accepted sense of accommodating, during the secondary stage, all the children over 11 years of age.

The narrower range of ability and attainment which will be found in a selective Modern School will simplify the problems which arise in converting a small Grammar School for the dual purpose that we have in view. Moreover, the complications which may occur in the admission of pupils to the grammar school side from a wider area than that of the other side will disappear. *We therefore welcome the possibility of a combined school which incorporates a selective Modern School, drawing its pupils from an area similar to that of the Grammar School proper.*

PART II.—ESTABLISHMENTS OF TEACHING POSTS

7. *In the opinion of some of our witnesses, and in our judgment, a necessary step towards placing Modern Schools on the same*

plane as Grammar Schools is the reorientation of the principles on which the national salary scales for teachers are founded. At present these two forms of secondary education are sharply divided by the fact that the basis of the teacher's remuneration is the type of school in which he serves. So complete a differentiation cannot be maintained indefinitely, if the salaries of teachers are to be in any way consistent with parity of schools in the secondary stage.

A consideration of at least equal weight is the attitude of the teacher towards service in a particular type of school. In Modern Schools, no less than in Grammar Schools, there is scope for variety of experience, of background, and of academic achievement among the teaching staff. As things are, however, there can be no doubt that the greatly superior prospects which are offered by the Grammar Schools must cause some teachers to accept service in a Modern School, even if it be a selective Central School, as a *pis aller*; to them the Modern School does not offer a career. If, on the other hand, there existed for each type of school an establishment of teachers, with posts in the Modern School, though fewer in number, equal in their rewards to similar posts in the Grammar School, the young teacher's choice of school would cease to be so invidious. There would no longer be the same feeling of limitation; he would realise that not only were there positions in his own school to which he might aspire, but that a freer interchange of teachers between both types of secondary school had been made possible.

We have already seen how the whole question of Teaching Establishments is involved in the proposal to add a modern school side to small Grammar Schools, as one of the means of providing in rural areas suitable forms of secondary education for all children over 11 years of age; and how effective organisation in such a combined school would be impracticable if the service of individual teachers were confined to a particular side of the school. This disability can be removed only by the general adoption of an 'establishment' system for Grammar and Modern Schools alike.

8. *Such a reconsideration of the basic principle of the teachers' salary scales as we are now contemplating involves fixing establishments of teaching posts, so that the salary of the teacher will no longer depend directly upon the type of school in which he happens to be working.* Lord Eustace Percy, in his evidence, favoured the adoption of this principle, although he realised

that it would involve a "reconstruction and consolidation of the Burnham scales as a whole". *There would still be two scales of salary for teachers in Grammar and Modern Schools, but these would no longer be 'elementary' and 'secondary'; a proportion of posts on the higher scale would be allocated to each type of school.* This higher scale we conceive as corresponding generally to the existing Burnham graduate scale for "Teachers in Secondary Schools" (with an additional reservation as at present for posts of special responsibility); the lower scale as corresponding generally to the existing 'elementary' scale for Certificated Teachers, and to the non-graduate 'secondary' scale which is very similar. In Grammar Schools and Modern Schools alike there would be posts on both scales, but *in the Grammar Schools the proportion of posts on the higher scale would be larger* owing to the preponderance of more advanced work.

In Grammar Schools the teacher would be appointed to the particular post vacant under the establishment, but if appointed on the lower scale, and if a graduate or holding an equivalent qualification, he should have the opportunity of promotion on the recommendation of the Head to a post on the higher scale in the same school when one becomes vacant.

In the Modern Schools there would similarly be a fixed, though smaller, proportion of posts on the higher scale, open to trained teachers who have graduated, or who hold qualifications which are deemed equivalent to those of graduates. In Modern Schools a general distinction could be drawn between those of the selective and those of the non-selective type, the proportion of posts on the higher scale being larger in the former than in the latter for the same reasons as determine the higher proportion of such posts in Grammar Schools.

As between Grammar Schools so simple a distinction could not be drawn. We contemplate that the principles underlying the salary scales and the salary to be attached to each grade would be determined by the Burnham Committees, but that the establishment for each Grammar School would be approved by the Board of Education.

9. It will be remarked that we have not suggested a break with the tradition of requiring specific training in the art of teaching for posts in a Modern School. On the other hand,

we have not suggested that such a requirement should be made universal in Grammar Schools. While we would not be held to depreciate the importance of specific training, we recognise that teachers who are required to do specially advanced work in Grammar Schools may often spend their fourth university year more profitably in increasing their mastery of their special subjects, than in following a course in the University Training Department.(1) This is an important consideration in determining the extent to which technical training should be required for teaching in a Grammar School; and, although we express no definite opinion on the desirability of change, we cannot but feel that in some Modern Schools also some relaxation of the present 'Code' requirements as to the necessity for specific training for teaching may be found desirable in exceptional cases(2), in order to secure other specialist training or even practical experience.

Under the existing national salary scales, the salaries of Head Teachers in Modern Schools (whether selective or non-selective) are ordinarily related by a system of promotion increments to the salaries of Assistant Teachers.(3) This practice might be preserved, provided that the salaries of Head Teachers are related by the addition of promotion increments to the higher grade scale for Assistant Teachers. Nor does there appear to be, as a result of our proposals, any necessity for change in the existing practice whereby appropriate rates for the payment of the Heads of Grammar Schools are formulated on the basis of minimum salaries recommended by the Burnham Committee.

We recognise that such a change of policy as we have foreshadowed might have to be introduced gradually, as has happened before, during the period in which any necessary alterations in the structure of the salary scales are taking effect, and that all existing interests would have to be safeguarded. *Further, we recognise the special experience and function of the Burnham Committees in regard to salaries; and we recommend that the proposals we have made should be submitted for their consideration.*

(1) We consider that in such exceptional cases candidates training as teachers should be allowed to spend their fourth year in this way.

(2) cf. Code of Regulations for Public Elementary Schools, 1926, Schedule I, para. (1)(*e*).

(3) There are exceptions to this rule, just as under the existing practice there are exceptional payments to enhance the salaries of principal Assistant Teachers in Modern Schools.

We would make it clear that throughout these proposals we have been exclusively concerned with the Grammar School proper, and not with preparatory classes or departments. *It has been further assumed that Teachers in Technical High Schools will receive equality of treatment with those in Grammar Schools.*

PART III.—SCHOOL BUILDINGS

10. We have already stated, in discussing the possible addition of a modern school side to small Grammar Schools, that nowadays there is little material difference in the building requirements for a Grammar School and a Modern School. Apart from the fuller provision in Grammar Schools for certain branches of the curriculum, and the addition of smaller classrooms for Sixth Form use, the teaching rooms in both types of school are similar in size and construction. Such difference as there is lies not in the kind of premises provided but in the dissimilar methods of assessing their accommodation. The number of pupils that at present normally occupies a classroom is assessed at 30 in a Grammar School and 40 in a Modern School, with the result that, size for size, the Grammar School has four classrooms to each three in the Modern School. Since, however, each pupil in the former is allowed 16 square feet of floor space as against 12 square feet in the latter, the size of room is the same.

It will be obvious that the nature of the curriculum and the more advanced work undertaken in the Grammar School necessitate a more generous provision of laboratories and of special rooms and equipment for such subjects as History, Geography, and Art. In the Modern School, for example, only one room accommodating a whole Form might be needed for General Science. On the other hand, the Grammar School which is carrying its pupils if only to the standard of the School Certificate will need at least separate laboratories for Chemistry and Physics, and a room specially equipped for the teaching of Biology. Again, in the upper range of the grammar school course, and in the Sixth Form especially, Forms will perforce be small in order that the pupils may receive the needful amount of individual attention. But, while we recognise the necessary differences in premises consequent upon differences in curriculum, we feel that *parity of schools in the secondary stage calls for a more consistent assessment of their requirements in buildings.* We cannot accept a basis of assessment which assumes that a modern school pupil requires in the classroom a quarter less breathing space than his contemporary in the

Grammar School; and *we recommend that the maximum size of classes should be the same in both types of school.*[1]

In other respects, Modern Schools are being 'levelled up': amenities which Grammar Schools have long possessed, such as gymnasiums, laboratories and playing-fields, are now requisite in the planning of Modern Schools, though it should be remembered that a more generous provision of playing-fields (and therefore larger sites) is still required in the planning of Grammar Schools.

11. Owing to the difference in assessment and to the other causes we have mentioned, the present cost per place of grammar school buildings remains roughly one-third more than the cost per place in Modern Schools. *We would welcome any economies that can be effected by modification of the regulations, without sacrifice of efficiency, in regard to the adaptation of existing Grammar Schools.* The heavy expenditure at present required may act as a deterrent in those areas in which the provision of grammar school places is as yet insufficient, and may delay unnecessarily the addition to the older schools of the facilities for practical, cultural, and social education afforded by such rooms as gymnasiums, handicraft and housecraft rooms [2], music rooms, libraries and dining halls.

The importance of physical education in schools and elsewhere has recently been emphasised in relation to 'national fitness'. *We regard it as essential that the provision made should include adequate changing rooms for boys and girls, with shower baths and facilities for the airing and storage of gymnastic clothing.*

12. Elsewhere in this Report[3] we have referred to the experience gained in recent years, in the reorganisation of Modern Schools, of the value and importance of school meals, not only on grounds of health, but as a means of social training and as a feature of the communal life of the school. The County Councils Association regarded the midday meal "as one of the most educative features in a rural secondary school", and considered that there was a further benefit in that "the

[1] Regulation 5 of the Regulations for Secondary Schools, 1935, runs "The number of pupils taught together at one time must not without the concurrence of the Board exceed thirty, and must never exceed thirty-five."

[2] The Standing Joint Committee of Industrial Women's Organisations suggested that, in view of the increased use of electric and other labour-saving devices in the homes, it was desirable that the schools should be furnished with domestic apparatus, even though such apparatus were in advance of that which would be likely to be found in all homes.

[3] See pp. 118–9, and p. 202

pupils came under the influence of the school for an unbroken period of six to seven hours each day." We feel that in every school in which any substantial number of pupils stay at midday (and we conceive that most Grammar Schools can be so described) a hot meal at suitable cost should be available for them. The Board of Education in their *Suggestions for the Planning of New Buildings for Secondary Schools*, issued in 1931 and reprinted in 1937, state that "it is difficult to justify the allocation of a room to be used exclusively as a dining room" *We consider that in most schools a case can be made out for a dining hall, with its own kitchen and pantry attached.* We can see, however, no reason why the dining hall, subject always to its primary purpose, should not be made use of for other school activities. *In schools in which a considerable number of pupils travel long distances to and from school and remain on the premises for the midday meal, suitable common rooms also should be provided for both senior boys and senior girls.*

Provision for the use of visual and auditory aids in teaching has assumed a fresh importance owing to the recent development in the use of the cinematograph, epidiascope, gramophone, and wireless transmission. In new schools of both types, facilities for the darkening of rooms and suitable wiring for loud-speakers are now generally to be found. It appears desirable that further consideration should be given to safety requirements for the use of films, more especially in classrooms.

13. Finally, we desire to call attention to two matters of importance in the general planning of grammar school buildings, *taste in design* and *planning for quiet.* While functional considerations and economy must, of necessity, be kept prominently in the mind of the architect, he should not overlook the powerful influence in the aesthetic training of the pupils that is exerted by the design and decoration of the premises in which they work day by day. The absence of distracting noises, whether from outside or from other rooms in the school, is recognised as a vital requirement for concentration upon school work. In this regard we invite attention to the Sections on *General Planning*, *Decoration*, and *Acoustics* in the Board of Education's *Suggestions for the Planning of Buildings for Public Elementary Schools*[1], as

[1] Board of Education: Educational Pamphlet No. 107, *Suggestions for the Planning of Buildings for Public Elementary Schools* (1936), see pp. 81, and 90–92.

dealing more fully with these important questions than does the corresponding publication on the planning of new buildings for Grammar Schools.(1)

(1) We add a footnote on Heating, Ventilation, Lighting, and on one important item of School Equipment.

During the last 15 years the heating and ventilation of schools has been studied by investigators of the New York State Commission on Ventilation, the Industrial Health Research Board, and the Building Research Station of the Department of Scientific and Industrial Research. More recently these have been followed by more extensive investigations conducted by the National Institute of Industrial Psychology, which embrace also the natural and artificial lighting and the design of equipment of schools.

In one of these investigations it was found that children of 9 to 13 were able to work best, as judged by the results of psychological tests, at the temperature of 58°F. (±2°) and with a cooling power of 8·5 (±·5)—conditions corresponding approximately to an equivalent temperature of 56°. The National Institute has also made a series of studies of the different types of heating installations in classrooms from the physiological point of view.

Similarly, the conditions produced by different types of window have been examined in relation to the type of heating employed. As regards the natural lighting of schools, the Institute has found that improvements and economies can frequently be effected by the careful planning of window positions after the daylight factors on the working surface have been evaluated. The artificial lighting of rooms used at night time has received considerable attention, and the Institute recommends an illumination of 8 to 10 foot candles on the working surface in classrooms. It is important that the lighting over the whole of the desk area should be as uniform as possible. Lighting plans for classrooms of standard size have been worked out, but in laboratories and special subject rooms it is most important that the lighting should be planned with regard to the particular visual tasks involved. In many cases special lighting fittings and directional lighting fittings are necessary and for some tasks higher intensities of illumination are required.

In considering equipment, the Institute first turned its attention to the blackboard. It has been shown that children can copy on to white paper ten per cent. more in the same amount of time from a primrose-yellow board using dark blue chalk than they can from a standard blackboard. Experiments on adults and reaction time apparatus have shown still greater advantages to be gained by using light-coloured boards and dark chalk.

Reference in the above footnote is made especially to the following publications:—

School Ventilation, New York State Commission on Ventilation, 1923 and 1931.

A Study of Heating and Ventilation in Schools, by Vernon and Bedford, Report 58, Industrial Health Research Board, 1930.

Radiant Heat: A contribution to the study of the heating of school buildings, by A. F. Dufton, Institute of Heating and Ventilating Engineers, 1931.

The effects of different conditions of temperature and ventilation on the mental output and mental fatigue of school children, by A. H. Seymour. (Not yet published in full; available in the Library of the University of London.)

'An Improved Blackboard', by W. Douglas Seymour, *British Journal of Educational Psychology*, November, 1937.

Improving the Blackboard, Report No. 7, National Institute of Industrial Psychology.

PART IV.—SCHOOL FEES

14. In view of the recommendation we make in a later section of this chapter(1), as to the more general adoption of the '100 per cent. Special Place' system, it is of some interest to note the point which has now been reached in the provision of Free Places in Grammar Schools, and to consider what the future may bring. Within the memory of people not much past middle age, the provision of free education in Grammar Schools was entirely confined to those school foundations having endowment funds administered under schemes which allowed a limited number of children to be admitted to the school without payment of fees. The opportunity of free education depended entirely upon legacies of the past, and happy was the lot of those children who happened to be born in places where such benefactions had been made. Under the Technical Instruction Act, 1889, limited public funds became available for higher education; and from this new source another tiny stream of free scholarships began to flow. By 1895, the number for the whole of England was nearly 2,500; by 1900 this number had doubled; in 1906, owing to the enlarged powers of the new local education authorities created by the Education Act, 1902, and owing also to the provision by the Board of Education that boys and girls preparing for the teaching profession should be educated in Grammar Schools, it had reached about 23,500. In the following year the system of Free Places took shape as a national policy. The Board's Regulations for 1907 provided for the offer of them to pupils entering from public elementary schools; they were to be normally 25 per cent. of the total number of the pupils admitted to the school during the previous year.(2) Eleven years later, at the time of the passing of the Education Act of 1918, 30 per cent. of the children in grant-aided Grammar Schools in England, and 42 per cent. in Wales, were holding Free Places derived from the awards of education authorities and from local endowments.

When it was enacted, by the Education Act of 1918, that the schemes of local authorities should make adequate provision "in order to secure that children and young persons shall not be debarred from receiving the benefits of any form of education by which they are capable of profiting through

(1) See pp. 325–31

(2) cf. The statement by Mr. McKenna, President of the Board of Education in the House of Commons on 15 May, 1907 "The schools might have as many more Free Places as they liked, and where the schools were provided by the local education authority he trusted they would all be free" 174 Parl. Debates (15 May, 1907) 1054.

inability to pay fees,"[1] it may well have been thought by those persons who estimate the probable effects of a legislative enactment by what appear to be its logical consequences, that the limitation upon the number of Free Places would immediately cease. But the complete fulfilment of this statutory requirement has depended upon more than one factor: the interpretation of the phrase 'capable of profiting'; the relation which the length of school life bears to the 'benefits' of a grammar school education; the reasonable capacity of an Authority to build schools. For the purposes of practical administration, the Board of Education in 1924 made awards of Free Places up to 40 per cent. permissive; from this date until 1930 the normal percentage became in fact 40 per cent.; in the meantime, the ban on other than public elementary school children had been removed, and Free Places had been made open to all children. In 1930, the percentage was increased normally to 50 per cent.; but percentages in excess of this figure have been freely allowed.

15. The volume of free education in Grammar Schools continued to grow steadily until 1932.[2] In the year ended 31 March, 1932, out of 389,525 pupils in grant-aided Grammar Schools in England, and 42,536 in Wales, 180,357 or 46·3 per cent. in England, and 28,734 or 67·6 per cent. in Wales, held Free Places. In England and Wales 79 schools were entirely free. As from 1 April, 1933, the Board of Education substituted for Free Places 'Special Places', which, in case of financial need, carried total or partial exemption from fees.[3] The normal maximum percentage was not altered, although in a number of cases the normal maximum was exceeded for the

[1] Education Act, 1918: S.4(4), re-enacted in Education Act, 1921, S.14(4).

[2] The following table shows the number and percentage of pupils in grant-aided Grammar Schools for England and Wales together, and separately, who paid no fees from the years 1920 to 1932.

	England and Wales.		*England.*		*Wales.*	
Year ended 31 March.	*Total.*	*Paying no fees.*	*Total.*	*Paying no fees.*	*Total.*	*Paying no fees.*
1920 ..	308,266	101,375 (32·9%)	282,996	89,867 (31·8%)	25,270	11,508 (45·5%)
1923 ..	354,165	136,890 (38·7%)	323,929	120,480 (37·2%)	30,236	16,410 (54·3%)
1926 ..	360,503	143,242 (39·7%)	328,074	124,291 (37·9%)	32,429	18,951 (58·4%)
1929 ..	386,993	169,254 (43·8%)	351,112	147,582 (42%)	35,881	21,672 (60·4%)
1932 ..	432,061	209,091 (48·4%)	389,525	180,357 (46·3%)	42,536	28,734 (67·6%)

[3] Board of Education: Circular 1421, 15 September, 1932.

first time, and where a percentage of Free Places in excess of 50 per cent. had already been approved by the Board, a similar or higher percentage of Special Places was approved; free schools became '100 per cent. special place' schools. The effect of this was twofold. In the first place, the number of schools awarding 100 per cent. of Special Places became considerable: on 31 March, 1937, though the number of free schools had previously reached only 79 in England and Wales, the number of '100 per cent. schools' was 209 in England (out of a total of 1,240) and 90 in Wales (out of a total of 153). The second effect was that (*a*) the percentage of pupils paying full fees in England was actually reduced under the special place system from 54 per cent. on 31 March, 1932, to 49 per cent. on 31 March, 1937; and in Wales from 32 per cent. to 24 per cent.; (*b*) the percentage of Free Places was also slightly reduced in England from 46 per cent. on 31 March, 1932, to 44 per cent. on 31 March, 1937; and in Wales from 68 per cent. to 66 per cent.; (*c*) an intermediate class who pay partial fees, amounting in 1937 to 7 per cent. in England and 10 per cent. in Wales appeared.[1] The change brought about by the substitution of the special place system for the free place system cannot, therefore, as yet be regarded as phenomenal.

[1] The following table shows the number and percentage of pupils in grant-aided Grammar Schools in England and Wales together, and separately, who paid no fees or partial fees from 1932 to 1937: the total number of pupils in the schools is also given.

England and Wales.

Year ended 31 March.	*Total.*	*Paying no fees.*	*Paying partial fees.*
1932	432,061	209,091 (48·4%)	—
1933	441,883	216,400 (49·0%)	9,269 (2·1%)
1934	448,421	216,255 (48·2%)	15,152 (3·4%)
1935	456,783	215,759 (47·2%)	21,593 (4·7%)
1936	463,906	215,591 (46·5%)	27,684 (6·0%)
1937	466,245	214,694 (46·0%)	34,288 (7·4%)

Year ended 31 March.	*England.* *Total.*	*Paying no fees.*	*Paying partial fees.*	*Wales.* *Total.*	*Paying no fees.*	*Paying partial fees.*
1932 ..	389,525	180,357 (46·3%)	—	42,536	28,734 (67·6%)	—
1933 ..	398,165	186,252 (46·8%)	7,847 (2·0%)	43,718	30,148 (69·0%)	1,422 (3·3%)
1934 ..	403,689	185,400 (45·9%)	12,943 (3·2%)	44,732	30,855 (69·0%)	2,209 (4·9%)
1935 ..	411,291	184,618 (44·9%)	18,516 (4·5%)	45,492	31,141 (68·5%)	3,077 (6·7%)
1936 ..	418,403	185,056 (44·2%)	23,817 (5·7%)	45,503	30,535 (67·1%)	3,867 (8·5%)
1937 ..	420,693	184,720 (43·9%)	29,576 (7·0%)	45 552	29,974 (65·8%)	4,712 (10·3%)

16. In 1936, a step was taken which, as we have said, persons unacquainted with the gradual progress of administrative change might have thought likely to be taken nearly 20 years earlier. In their *Administrative Programme of Educational Development* issued in January, 1936(1), the Board of Education announced their proposal " to remove all maximum limits on the number of Special Places which may be awarded annually ", and to give to local authorities complete discretion in this respect. There was the suggestion that the Authorities, in order to compensate themselves in some measure for the loss of fee income, might be disposed to consider some increase in the standard fee, seeing that " income scales governing the total remission of fees can be so framed as to ensure that no parent is called upon to pay more by way of fee than he can afford, whatever the standard rate of fee may be ".

This question of a standard fee is an interesting one. So long as the principle is accepted that fees shall be charged to parents who can afford to pay them, and in proportion to their ability to pay, it seems relevant to have regard to the ratio which the fee shall bear to the actual cost of education. Striking anomalies in this fee ratio are to be found even in different schools under the same local authority. *The charging of abnormally low fees in certain schools is liable, also, to complicate relations with those neighbouring Authorities who pay the difference between the low fee and the total cost in the case of emigrant children* (i.e., those who pass over the border to attend school), and who, in their own schools, charge fees that are nearer to a reasonable standard. There will be no cause to make the standard fee unreasonably low, when the 100 per cent. special place system becomes obligatory, and all parents are subject to it, paying either no fees at all, or that proportion which they can afford to pay.

To what an extent the Board of Education's action in removing *permissively* the percentage limit may increase the number of Free Places, is not yet calculable. In the meantime, we are recommending, on grounds to be stated later, that the *obligation* to make all vacant places Special Places shall be imposed upon all Grammar Schools which are maintained or substantially aided by local authorities. We confine ourselves to the probable influence of our own recommendation, which brings the local authorities nearer to fulfilling the requirements of the Education Act, 1918. Owing to the effect which the admission of pupils more strictly on educational qualifications

(1) Board of Education: Circular 1444, 6 January, 1936.

will have upon the proportion of those exempted under the income scale, it is obvious that the 100 per cent. special place system will increase the percentage of Free Places in the schools. On a calculation of the steadily progressive results of the administrative changes of the past 30 years, it may well be that the increase will be at least as high as an additional 20 per cent. On the other hand, the 100 per cent. special place system reacts, as the free place scheme of 1907 in its unchecked development would not have done, against the introduction of a universal system of free secondary education.

17. On the general question of free education, it may be of interest at this point to note (*a*) the inevitably downward trend in the ratio of school fees to total expenditure, owing to the growth in the number of Special Places, and increased costs; (*b*) the considerable sum which is contributed by way of fees towards the cost of grammar school education. Twenty-five years ago, the amount paid in fees towards the upkeep of Grammar Schools was £1,100,245, and the amount contributed by the Exchequer and local rates, £1,304,218: a ratio of 1 to 1·19.(1) In the financial year 1935–6, the amount of fees paid by parents or guardians was £3,212,187, and the amount of those paid by Foundations and other bodies, £73,186, a total of £3,285,373; the burden on the Exchequer and local rates was £9,328,054: a ratio of 1 to 2·84.(2)

The Departmental Committee on Scholarships and Free Places, 1920, recommended: "That the discontinuance of all fees in secondary schools should be regarded as a prospective policy to be carried out as soon as the conditions of national finance allow."(3)

We cannot ignore influences which have been brought under our notice in the course of our evidence, and which might ultimately lead to this further change. *If parity of schools in the secondary stage, so generally advocated by our witnesses, and regarded by us as essential, is to be established, payment of fees in one school and not in another becomes incongruous. We hold that the conditions which apply in Modern*

(1) Board of Education: *Statistics in Public Education in England and Wales. Part II, Financial Statistics* 1912–13. Cd. 8054.

(2) The income from Endowments and Miscellaneous receipts was £429,937, making the total 'grammar school' income (i.e., receipts in respect of school maintenance) £13,043,364. Endowments and Miscellaneous receipts represent 3·3 per cent.; Fees 25·2 per cent.; Government Grants and Local Rates 71·5 per cent. of total cost.

(3) *Report of the Departmental Committee on Scholarships and Free Places* (1920) p. 49.

Schools should be extended to other types of secondary school, and that this should be secured as soon as the national finances render it possible. For the intervening period we make proposals with regard to Special Places.

PART V.—THE SCHOOL LEAVING-AGE

18. The lengthening of school life seems in the past to have followed upon progressive adjustments that have been made in the national system of education to meet social, economic, and political needs. From the beginning of the century the longer school life in public elementary schools has been most marked in those areas in which the local authorities have been at pains to improve the provision made for the older children. As we observed in our Report on *The Education of the Adolescent* (1926), the success of these efforts " has met its natural but welcome response in a heightened appreciation of the value of education, and in an increased willingness on the part of parents to make sacrifices in order that their children may continue to receive it ". We had already noted an upward trend in the school leaving-age. Measured by the standard of the age-group ' 10 to 11 years ', in the year 1913–4 the number of children who continued their schooling after the age of 14 in the public elementary schools and special schools was 7 per cent. ; in 1919–20 it was 18·8 per cent. ; in 1922–3 it was 26·1 per cent. Although in this last year the increase had just been affected by the obligation for the children to remain at school until the end of the term in which their fourteenth birthday fell, it was not wholly attributable to this cause. As we said in our former Report, there had already been a marked increase in the number and proportion of children remaining at school beyond the age at which attendance ceased to be obligatory. Although progress towards the reorganisation of schools, which we recommended in our Report, has been unequal, and in some areas is still insignificant, the proportion of children remaining at school beyond the age of 14, measured by the standard of the ' 10 to 11 years ' age-groups of 1931 and 1932, was in 1935 28·4 per cent., and in 1936 29·3 per cent. These later percentages are affected by the expansion of the grammar school system of education ; the admissions to Grammar Schools from these age-groups account for a further 10·5 per cent. and 10·8 per cent. respectively.

These figures seem to provide some ground for the contention that successive advances of the school leaving-age have occurred

as political events in response to a forward urge, which in its turn has been caused by a fuller provision of education for the older children, and by an increased appreciation on the part of parents of the value of a longer school life.

We have yet to see how soon Industry will become impatient of the conditions of exemption contained in the Education Act of 1936, and how soon the operation of the Act, from this and other causes may result in a general leaving-age of 15. We have yet to see also whether such a leaving-age can in fact become general, without provision in some cases of maintenance allowances similar to those which have been found necessary at a like age for children attending Grammar Schools.

19. In the meantime, we are bound to look even further ahead. *Parity among schools in the secondary stage, so that they will differ only in the kind of education they provide to meet the differing abilities and interests of the pupils, implies the raising of the minimum leaving-age to the same general level in all schools.* The more complete provision of various types of secondary education, especially of Modern Schools and Technical High Schools, foreshadowed in this Report will undoubtedly prove to be, as in the past, a powerful incentive towards the lengthening of school life; and, from this cause alone, the second stage of education may be made continuous for most children from the age of 11 to the age of 16. The advance in the school leaving-age will, however, in our judgment, receive even greater impetus from the general recognition of the parity of secondary schools. *The adoption of a minimum leaving-age of 16 years may not be immediately attainable, but in our judgment must even now be envisaged as inevitable.*

PART VI.—A SECONDARY CODE

20. Throughout our evidence, the opinion was generally expressed that there should be "a unified, though not uniform, system of secondary education". Perhaps the point was most plainly put by the Workers' Educational Association: "The present division of education after 11+ into elementary and secondary is the legacy of historical conditions which are now largely obsolete". The Association of Education Committees affirmed that it was desirable "to regard the education of all children from the age of 11+ to the age of 16, or thereabouts, as belonging to one general organisation, designed in its different parts to meet the requirements of

children falling within these age-limits". The County Councils Association said: "The unification of the regulations of the Board of Education for all post-primary schools should be seriously faced, with a view to helping the development of the various types of school in balanced proportion, having regard to the needs of individual areas". The Trades Union Congress General Council, referring particularly to our Report on *The Education of the Adolescent*, considered "that the most urgent reform required to-day was that full effect should be given to the Report"; but that, in their view, the intended results could not in fact be achieved "except under a single code of regulations applicable to all post-primary education". The Association of Directors and Secretaries for Education stressed the point that equality of status for all types of secondary education was the main object, and that a single comprehensive Code of Regulations for all secondary schools would facilitate the proper and coherent organisation of this stage of education. The Standing Joint Committee of Industrial Women's Organisations held the same views; as did many individual witnesses: e.g., that all schools providing for pupils over 11 years of age "should be administered under the Secondary Code"; that "the unification of the whole secondary system of education seems to be the primary essential"; "that the present overlapping with its unfortunate implications belong to an obsolete social order"; and much more to a like effect.

We stated in our Report on *The Education of the Adolescent* that our proposals might ultimately involve "some amount of change in the substance of educational administration". *It has now become increasingly evident that the new prospect in education must lead to innovations in the system under which secondary schools generally are organised.* The operations of the past 12 years have shown that there is a fundamental need for parity among all schools in the secondary stage, consequent upon new factors in 'the interrelation of schools'. Hence the importance which our witnesses have attached to the creation of 'one general organisation' which, as the Association of Education Committees said, should "embody within itself intelligent and effective means of transfer of pupils from one type of school to another". *This, in effect, means a new Code, suited to the conditions of an educational system, which (though it has evolved through the upward development of older school types) is, in its essential parts, a new system.*

We have quoted characteristic extracts from our evidence to show how freely the opinion was expressed that a new Secondary Code had become indispensable. We realise the serious character of such an innovation, involving, as it appears to do, a clearer definition of the first two stages of education, with all its administrative consequences.

21. Nowhere in the Education Acts is there to be found a statutory definition of 'elementary education'. The Education Act of 1870[1] selected out of the voluntary schools which were then in existence those schools at which "elementary education" was "the principal part of the education there given", and at which the scholars paid a school fee of not more than 9*d.* a week. These schools, and similar schools to be established under School Boards, were described as "elementary schools" A study of the 1870 Act and its amending Acts, and of bye-law procedure under these Acts, shows that the normal type of 'elementary education' was what would now be regarded as 'primary' or even 'sub-primary', especially during the period when the standard of efficiency required for school exemptions was 'Standard II'. The reference to scholars' fees also shows that educational characteristics were not the only distinguishing features of an 'elementary school' It is not necessary to trace the upward development of 'elementary education' in all its various forms. In the Education Act of 1918[2], it was made clear, if it was not clear before, that education "other than elementary" could be given in an "elementary school". The significance of this Act is that it now became a "duty" of local authorities so to exercise their powers that "practical instruction" and "advanced instruction" should be adequately and suitably provided in public elementary schools. After a period of experiment, it was realised that the effective provision of these types of teaching required a rigid age-break, preferably at about the age of 11, at which age the children should be transferred to separate schools large enough to permit them to be classified adequately according to their varied aptitudes and interests. These schools, in our former Report, we called Modern Schools, representing a new secondary stage in the schooling of the children. Our witnesses urged that this type of school should find its proper place in a new Secondary Code, which would establish it not only in

(1) Education Act, 1870, S.3.

(2) Education Act, 1921, S.20 (re-enacting Education Act, 1918 S.2(1)(*a*)).

the mind of the administrator, but also in the public esteem, as a real alternative to other forms of secondary education.

22. In our former Report, we were already conscious that the term 'elementary' had become misleading, and we therefore desired to abolish it altogether, and to alter and extend the sense of the word 'secondary'. The abolition of the name 'elementary school' in its statutory meaning might, however, involve drastic changes in the system of local administration, and in the methods of distributing Exchequer grant. Nevertheless, in view of the volume of evidence we have received, we feel bound to seek some means of preventing the continued association of this name with schools which have ceased to be elementary in any just sense of the word. We can find no other means of removing a misconception prejudicial to the educational status and the natural development of such schools than by suggesting their inclusion in a new Secondary Code. *We therefore consider it essential to a proper 'interrelation of schools' in the secondary stage that Modern Schools, both selective and non-selective, should be administered under a new Code which comprises also Grammar Schools and Technical High Schools.*(1) The meaning of the word 'secondary', which has no statutory definition, would, thus, be extended to include in official regulations part of what falls at present under the statutory definition of 'public elementary school', as well as various forms of 'higher education'. Under existing conditions (the permanence of which we propose to examine later), autonomous Authorities for elementary education, i.e., Part III Authorities, would have to conduct their adminstration, as do the existing Part II Authorities, under more than one Code.

In the distribution of Exchequer Aid, either the Grant Formula applicable to schools falling within the statutory definition of 'elementary schools' should be applicable to Modern Schools, or a Grant Formula not less favourable to the local authorities should be devised. The powers of local rating exercised by Part III Authorities would continue to embrace the provision of Modern Schools. The additional powers for Higher Education (also defined in the Education Act of 1902(2) as 'education other than elementary'), which are possessed by County Boroughs and County Councils, would not be affected.

(1) We assume that all other Technical Schools will remain under the Regulations for Further Education.

(2) Education Act, 1902, S.2(1), re-enacted in Education Act, 1921, S.170(3).

We accordingly recommend that, even though it may be found necessary to preserve the terms 'elementary school' and 'higher education' as statutory definitions, means should be found so to accommodate them to actual requirements as to allow the words 'primary' and 'secondary' to be used in Codes of Regulations relating respectively to schools attended by children up to the age of 11+, *and to the three types of secondary school which we call Modern Schools, Grammar Schools, and Technical High Schools.*(1)

PART VII.—AUTONOMOUS AREAS

23. In our Report on *The Education of the Adolescent*, we discussed at some length the position of those local authorities which are commonly known as 'Part III Authorities', i.e., Boroughs (not being County Boroughs) and Urban Districts, within a County area, which were large enough to be endowed by the Education Act of 1902 with autonomous powers for elementary education. The existence of these Authorities has entered as a complicating factor into our consideration of 'the interrelation of schools', and of the desirability of bringing Modern Schools within the compass of a new Secondary Code of Regulations. The course of our evidence confirms us in the opinion that it is not less urgent now to seek a satisfactory solution of this administrative problem than it was 12 years ago.

The Association of Directors and Secretaries for Education believed that " at the end of the transitional stage from which, owing to the progress of reorganisation and other factors, the organisation of primary education is now passing ", a reconsideration of the principles by which the administrative areas

(1) The Scottish Education Department have under consideration a Draft Code, which, " subject to the approval of Parliament, it is proposed to bring into operation on 1st September, 1939." This combines in one document " the existing Day Schools Code and Secondary Schools Regulations." The Department are going farther than we have suggested above, since the new Scottish Code will embrace not only all secondary schools, but " the whole provision of primary and secondary education in day schools throughout Scotland." The Memorandum explanatory of the Draft Code makes mention, however, of the " multiplicity of organisations and terms " used in connexion with education in the secondary stage, which begins in Scotland at about the age of 12, and adds: " These descriptions appear to create unnecessary and artificial distinctions in a system which should be determined by educational considerations." It should be observed that two of the obstacles in the way of unification to which we have had to refer have already been removed in Scotland, where one set of regulations now governs the payment of grants to all types of school, and the Minimum National Scales of Salary apply to all teachers.

for education have hitherto been determined would become inevitable. This statement is typical of a large body of evidence which we received.

The issue was starkly presented by the Incorporated Association of Head Masters, who had recorded as their opinion that it was " essential to the economical and efficient development of the national system of education that the existing smaller education authorities should be merged in larger administrative areas ". At the same time, this Association recognised, as did others of our witnesses, that some of the smaller Authorities had accomplished a great pioneer work in the reorganisation of schools, and that, frequently, progressive Part III areas had made a provision of Modern Schools which was relatively more generous than that of the surrounding County area.

At this point, there was a curious twist in our evidence. The progress of certain Part III Authorities in providing Modern Schools made some of our witnesses call the more loudly for reform. The policy had, in their opinion, been followed too exclusively, and had consequently deterred the provision of other types of secondary education. The Incorporated Association of Head Masters recalled a reference in our Report on *The Education of the Adolescent* to the necessity of ensuring in the development of other forms of secondary education that nothing should be done to cripple the development of secondary schools of the existing type, i.e., Grammar Schools. Our contention had been that the growth of Modern Schools would increase the demand for secondary education in general. They said that this might be true of those areas where both types of school were under the same Authority, but that, where this was not the case, there sometimes undoubtedly arose undesirable competition. Other witnesses similarly drew attention to the *unequal distribution* of the various types of secondary school which had occurred under the present system. In some areas, the position appeared to have worsened during the past 12 years. In other areas, however, it was evident that a remedy had been discovered through the co-operation of Authorities ; and the Association of Directors and Secretaries for Education assured us that the two types of Authority displayed a growing inclination to co-operate adequately with each other.

24. The possibilities of co-operation in their practical aspects were considered by the Association of Education Committees

and the County Councils Association in March, 1935. The Joint Memorandum which the two Associations issued gave administrative reality to the suggestion we had made that adequate co-operation might be secured, if fuller advantage were taken of the various provisions in the Education Act of 1921. The recommendations contained in the Memorandum were made " without prejudice to the views of the Associations as to any future organisation of the national system ". Their intent was " simply to suggest the most effective use of existing legal sanctions by neighbouring authorities ". The Memorandum outlined several proposals, the choice among which would depend " on local circumstances and historical and geographical considerations, and upon the ability and goodwill of the representatives of the Local Education Authorities concerned to participate in common schemes." In the forefront of their suggestions, the Associations placed *co-operation in planning*. Other forms of co-operation included (*a*) proportional representation on the Governing Bodies of Modern Schools and Grammar Schools; (*b*) regional committees. But, next to co-operation in planning, the recommendation of greatest importance was undoubtedly that concerning *devolution of higher education powers*. Such devolution, subject always to statutory limitations upon policy, estimates, and capital expenditure, might, in the opinion of the Associations, be made either (i) to a Higher Education Sub-Committee appointed by the Part III Authority, or (ii) to a Joint Committee representative of both parties. Sir Percy Meadon informed us that Lancashire had found, for the past 30 years, a measure of devolution to be " a workable scheme ". We understood that it had tended to overcome one of the principal objections advanced by our witnesses against the present system, in that the Part III Authorities had been encouraged to foster the Grammar Schools within their own borders as if they were their own schools; and that, by this means, inequalities in the provision of various types of education in the secondary stage had been smoothed out. This, however, was not the opinion of all our witnesses; many still urged that undue competition would arise even under a system of devolution.

25. We have referred in some detail to this Memorandum, on account of its bearing upon the first suggestion which we made in our former Report. We do not think it necessary to do more than call attention again to the further progressive steps, which, we thought, might ultimately follow. These

were (i) the introduction of legislation " for transferring to Authorities for Higher Education all the powers and duties of those Authorities for Elementary Education only which are concerned with areas that do not reach a certain minimum standard of population, and vesting with full powers in respect of Higher Education those Authorities which are concerned with areas that attain such a minimum standard " ; and (ii) the creation of ' new provincial authorities '.

Having regard to the experience gained during the last 12 years, we have no reason to believe that the objections raised by practical administrators to the creation of ' new provincial authorities ' would be less outspoken than they have been in the past. On the other hand, our evidence suggests that there is, in many quarters, a growing inclination to seek an ultimate solution of the problem along the lines of our alternative proposal. The methods by which such a solution will be reached are not immediately evident, nor can they be made evident without a close examination of actual conditions. For example, it may not be found inevitable that, after the larger Part III Authorities have been endowed with Part II powers, the smaller Authorities should be merged in the surrounding Administrative County. In some cases, there may arise the possibility of amalgamating two or more contiguous Part III Authorities, which will together form an effective administrative unit, and the further possibility of merging a neighbouring Part III Authority in a County Borough. We need hardly state, however, that we would regard as a condition precedent to such alternative arrangements that the integrity of the county authority should not be seriously impaired. In no case should the county authority be so reduced in population and rateable value that it would cease to be an efficient unit for the administration of all forms of education.

The problem is one of so great importance and complexity that it should, in our opinion, be remitted to a Departmental or Inter-Departmental Committee, which would not seek any general solution before it had thoroughly investigated the circumstances of individual areas ; the character of the work already accomplished by Part III Authorities ; the possibly deterrent effects of a dual administration ; the efficacy of devolution ; the minimum standard of school population requisite for the exercise of full educational powers ; the effect of amalgamation, or transfer of powers, upon the administrative efficiency of neighbouring Authorities ; and other relevant matters.

PART VIII. THE AMOUNT OF PROVISION OF EDUCATION OF THE GRAMMAR SCHOOL AND TECHNICAL HIGH SCHOOL TYPES

26. The conception of parity among schools in the secondary stage vitally affects any consideration of the amount of provision of Grammar Schools and Technical High Schools. Thus, the County Councils Association suggested that " the high esteem which the Grammar School holds, largely for historical reasons, has tended to lead in some areas to disproportionate development of that type." This view was confirmed by the Association of Education Committees who found therein " the reason for much distortion and lack of balance of our educational system." " Notably ", they added, " is this the case in the disproportionate development of Secondary (i.e., Grammar) Schools, as compared with other types of school, particularly those providing courses leading up to the work of advanced technology." With these opinions we agree: parity of schools is essential to a proper solution of the problem; unless this is conceded, disproportion is almost bound to ensue, with a supply of one or other form of secondary education which is not justified by local circumstances. At the same time (taking Grammar Schools first), the experience of local authorities during the period of expansion which has followed the Education Act of 1902 has made it clear to us that *the amount of provision which is desirable cannot be precisely laid down for the country as a whole; to such a high degree does it depend in each area on the character and traditions of the population, industrial conditions, and the future careers of the children.*

There is yet another factor. The use that has been made of Grammar Schools by different Authorities has varied greatly. Where, for example, the curriculum of a Grammar School has been conceived as being markedly academic, a comparatively small provision of such schools has been made, these being supplemented (as in London notably) by a liberal supply of selective Central Schools, of Day Technical Schools (some of which are, in fact, Technical High Schools), and of trade and commercial schools. On the other hand, in some areas of similarly urban character, where it might have been conceivably possible to develop other types of secondary school, Grammar Schools have multiplied, and, by a wide range of 'options', have provided almost exclusively the means of education for pupils who are remaining at school up to and beyond the age of 16.

In what follows, we do not attempt to form an estimate of the number of grammar school places which may be generally advisable for the country as a whole. We seek rather to arrive at a *standard* by which local authorities may measure their provision of grammar school education, having regard to what they judge to be the particular needs of their areas.

27. The number of grammar school places which is desirable has often been expressed as so many per thousand of the total population. On account of the changes in the relation of school population to total population, such a formula is misleading.(1) We prefer a formula which relates the number of grammar school admissions to the number of children in a suitable age-group in the public elementary schools. We propose to call this the ' secondary school age-group '. It has been the practice of the Board of Education to select the age-group 10 to 11 years for this purpose. Although the majority of admissions belong to the succeeding age-group 11 to 12 years, statistics based on these latter figures are vitiated by the fact that the group itself has already been creamed, and creamed unequally, by earlier entries to the Grammar Schools. For 1936–7, the percentage of this ' 10 to 11 years ' age-group admitted to Grammar Schools varies from 4·2 per cent. to 26·4 per cent. in England, and from 17·7 per cent. to 55·0 per cent. in Wales. This variation cannot always be attributed to the considerations we have mentioned, the character of the population, industrial

(1) The following table shows how, owing to the declining school population, the relation between the total number of pupils in the Grammar Schools per thousand of population, and the annual admissions expressed as a percentage of the secondary school age-group has varied during the last few years :—

Year.	Total number of pupils in Grammar Schools per thousand of population.	Admissions to Grammar Schools expressed as a percentage of the number of Public Elementary School pupils aged 10 and under 11. (*a*) Annual admissions from Public Elementary Schools.	(*b*) Total annual admissions.
1930	9·9	12·9	17·5
1931	10·3	10·3	13·6
1932	10·8	10·5	13·5
1933	11·0	10·8	13·8
1934	11·1	11·9	15·0
1935	11·2	12·6	15·6
1936	11·4	13·0	16·0
1937	11·3	13·7	16·8

The figures in Col. 1 above giving the total number of pupils per thousand of population differ slightly from similar figures in Chapter II, Table 4, p. 93, because the former are the mean figures for March and the latter the peak figures for October.

conditions, and the future careers of the children. There is sometimes to be suspected a lack of guiding principle, and also a want of discrimination in the development of one particular type of secondary education. The average percentage for 1936–7 of annual admissions in England and Wales was 13·7 per cent. (England 12·8, Wales 23·9).(1) The percentages, are exclusive of pupils who entered the Grammar Schools from other than public elementary schools.(2) On 31 March, 1937, the total number of pupils on the grammar school registers amounted to 11·3 per thousand of population (10·9 England, 18·4 Wales). This shows what a high average the annual admissions to Grammar Schools have reached during the past 30 years, as compared with any conception of the need for this type of education which had existed previously, even at a time when the only alternative type was provided to a limited extent by so-called 'higher grade' schools.

28. The local authorities were enjoined by the Education Act of 1902 to "take such steps as seem to them desirable, after consultation with the Board of Education, to supply or aid the supply of education other than elementary, and to promote the general co-ordination of all forms of education." Since the adoption by the Board of Education of the main recommendations of our Report on *The Education of the Adolescent* (1926), the duty imposed on the local authorities "to promote the general co-ordination of all forms of education" has received a fresh emphasis. *We accordingly assume that alternative forms of secondary education will be provided, on the one hand by the development of Modern Schools both of the selective and of the non-selective type*(3), *and on the other hand by an increased*

(1) *Education in 1937:* being the Report of the Board of Education, Table 40, pp. 130, 131.

(2) See footnote (1), p. 320.

(3) The falling school population has an important bearing upon the interrelation of Modern Schools of the 'selective' and 'non-selective' types. Where the number of annual admissions to 'selective' Modern Schools is maintained at its former level, the standard of selection is necessarily lowered, with the result that the school conforms more and more to the character of the 'non-selective' Modern School in which the highest 'track' only attempts specially advanced work. At the same time, the growing proportion of the children who are removed may so lower the level of ability in neighbouring 'non-selective' schools, that they have difficulty in maintaining themselves as satisfactory educational units.

The matter is not one on which a general recommendation can be made; in different areas different solutions of the problem may be reached. But we have no doubt that local authorities who include in their educational system Modern Schools of the 'selective' type will desire that these schools shall continue to be selective in character as well as in name, and that they may, therefore, find it desirable to concentrate the more highly qualified pupils in fewer schools, and to convert certain of their 'selective' schools to other educational uses.

supply of Technical High Schools. On this assumption, we are disposed to think that 15 *per cent. of the secondary school age-group, as defined above, might for the present be accepted as a standard, apart from any margin that may be required for pupils entering Grammar Schools from other than public elementary schools.* Our evidence[1] shows that this margin during the last few years can be expressed for the country as a whole as a constant figure of 3 per cent. of the secondary school age-group in public elementary schools. We would rather bring the margin into account separately, because the additional number of places required for other than public elementary school pupils will vary widely with the character of the area. We state below what appears to us to be the essential governing condition in regard to an adequate supply of grammar school places. We are here only concerned to estimate a working figure based on the present position, excess or reduction of which might even now be regarded as raising immediate issues.

In suggesting this figure of 15 per cent., with an additional 3 per cent. margin, as a standard for the time being, we do not mean to imply that those Authorities which are found to be below this standard are necessarily under-supplied, or that those above this standard are necessarily over-supplied. We suggest that Authorities below this average line should make a careful survey of the needs of their areas, with special regard to the future careers of the children and the wishes of parents. And we further suggest that Authorities much above this average line should consider whether the supply of this particular form of secondary education is in any way excessive. The question for them to decide is whether their general provision is sufficiently varied in type to match the individual interests and aptitudes and the future occupations of the children. It may be found desirable, in appropriate circumstances, that some of their Grammar Schools should become schools with a strong technical bias.

The standard we have mentioned may therefore require, on detailed consideration, a considerable modification in particular areas in order to conform to our governing principle that the supply of grammar school places should be regarded as adequate only when a grammar school education is available for all those pupils who will benefit more from such a course than from such other forms of secondary education as are provided in Technical High Schools and Modern Schools. In view of the provision of

[1] See footnote [1], p. 320.

Technical High Schools which we are recommending for boys, a somewhat higher grammar school provision is likely to be required for girls. This is the more necessary since the provision for boys is already more generous than that for girls.

29. We have as yet dealt only with the basis of calculation to be adopted in the provision of education of the grammar school type. The situation is very different when it is viewed from the standpoint of the Technical High School. The only schools which at present at all correspond to the Technical High School are certain Junior Technical Schools. Under the general title of " Junior Technical School " the Board of Education includes not only (i) those schools which prepare their pupils for a specific trade or occupation, and which have been generally known as ' Trade ' Schools, but also (ii) those schools which prepare for a group of occupations with a common educational basis, as well as (iii) the schools which afford a preliminary training for some pupils who, after further education in a technological college of University grade, may enter the higher branches of Industry. The total number of annual admissions to all kinds of Junior Technical Schools, including also Junior Housewifery Schools, is only about one-tenth of the number of annual admissions to Grammar Schools.(1) With the demand for more of those Junior Technical Schools which are essentially ' Trade ' Schools, and for more Junior Housewifery Schools, we are not for the moment concerned. *We are, however, strongly of the opinion that there is room for a considerable development of Technical High Schools. We cannot attempt to make an exact estimate of the additional number of Technical High Schools which are needed, because this form of secondary education is intimately linked up with widely divergent industrial conditions. We commend the problem to local education authorities for their careful consideration; and we suggest that the provision of Technical High Schools in association with Technical Colleges is not a problem which concerns exclusively the more highly industrialised areas.*

30. In the course of our evidence on the curriculum of the country Grammar School, two questions arose which have some bearing upon the provision of technical teaching of an

(1) It will be observed that the actual number of pupils in attendance at Junior Technical Schools, as given in Chapter II, Table 16, p. 105, is considerably less than one-tenth; this is due to the earlier admission age and the longer average school life in the Grammar Schools.

agricultural character.[1] It will be remembered (*a*) that a distinction was made between 'rural colour' and 'agricultural bias'; (*b*) that the Board of Education in 1926, and again eight years later, commented upon the fact that the development of rural education in Grammar Schools had not been 'the outcome of any considered plan on the part of Local Education Authorities or of the Board of Education for the establishment of rural schools in suitable areas'[2]; but had 'generally been due to the initiative and interest of individual Head Masters'.[3] We are here concerned with the second group of schools, those which have an 'agricultural bias', and with the policy of establishing such schools on a regional basis to meet the particular needs of the countryside.

The rural colouring of education is a sound method of instruction; we have already seen how the teaching of various subjects may be related to rural surroundings, and how important this is not only for those pupils who will work on the land, but also for the large number of other pupils whose profession or trade will have a background of farming interests. The Board of Education have called attention to some 35 country Grammar Schools in which this has been successfully attempted.[4] On the other hand, there appear to be only three or four schools in which the curriculum is directed towards agricultural pursuits in the same way as that provided for various branches of urban industry by the Junior Technical Schools, and such as we hope will be increasingly provided by the Technical High Schools.

31. In the rare instances mentioned by the Board of Education, it has been shown how an agricultural 'side' may be developed with marked success in the higher Forms of a country Grammar School. The provision of a school of even more specialised type is becoming increasingly possible, owing to the establishment of small Technical Colleges in some of our country towns. The preliminary training for rural and urban industries has much in common. The laboratories and workshops of a Technical College designed to meet the requirements of a large rural area will normally provide a suitable *indoor*

(1) See Chapter IV, Part IV, pp. 189–197.

(2) Board of Education: Educational Pamphlet No. 46, *Rural Education* (1926), p. 24.

(3) Board of Education: Educational Pamphlet No. 99, *Education and the Countryside* (1934), p. 66.

(4) *Ibid.* p. 70.

equipment for a Technical High School of agricultural character. The *outdoor* equipment of field, orchard, and garden, may be provided in one of two ways, both of which have been found practicable. (i) The school will have its own small farm worked by the older pupils with the aid of outside labour; the extent to which stock is kept will depend upon the farming of the neighbourhood; there will be the usual farm and garden crops; and a fair-sized orchard with a variety of tree and bush fruits. (ii) The work of the school will be associated with that of a neighbouring estate, where, as described in one case by the Board of Education, the older pupils "spend half their time on the farm, in the garden, in the estate workshops or in the power station, and during the other half continue their education in the classroom, laboratory, or school workshop".(1)

We are of opinion that the provision of Grammar Schools with an 'agricultural bias', or alternatively of Technical High Schools associated with Technical Colleges in rural areas, should be seriously undertaken. The decision as to which type of school may most profitably be established, will depend upon existing local resources; but in any case *the development of such schools should not be left entirely to individual interest and initiative, but should be planned by the local authorities on a regional basis.* We believe that, if full advantage is taken of modern means of transport, schools and colleges may be found which are suitably situated to meet the requirements of a wide area.

PART IX.—100 PER CENT. SPECIAL PLACE SYSTEM; INSPECTION OF PRIVATE SCHOOLS

32. We have given very careful consideration to the important questions which are bound up in the system of 100 per cent. Special Places. This system, as generally interpreted, means that all the vacancies in a Grammar School are filled annually on the results of a common entrance examination. In the case of successful pupils the parents who elect to send them to the school are required to pay full fees, partial fees, or no fees at all, according to their circumstances. An important feature is that, once the pupil has been appointed to a Special Place, the ability of the parent to pay a school fee may at any time be re-assessed, and changed circumstances

(1) Board of Education: Educational Pamphlet No. 99, *Education and the Countryside* (1934), p. 69.

can be brought into account. In our judgment, no objection is possible to the general principles underlying this system, namely, that pupils should not secure admission to the schools in question merely because of the greater wealth of their parents, that admission should be determined only by the extent to which each individual is likely to profit by the course of instruction provided, and that, where educational awards are made by public bodies, the amount of any assistance given should vary according to the circumstances of the parents. In consequence, while for reasons which we will explain we think that certain safeguards are important both in regard to the method of selection and in certain other directions and also that it may be desirable to omit, at least for the time being, the 'direct grant schools', we are of opinion that the 100 per cent. special place system ought in general to be adopted.

33. So far as the method of selection is concerned, the difficulties and objections which have been raised are of a practical character and depend in the main on the use of a single test of educational capacity for all pupils, without regard to the character of their primary education. It is usual, in the 100 per cent. special place areas, to hold an examination which, so far as attainment tests are concerned, is practically identical with the examination previously held for the award of Free Places, which was designed mainly for pupils from public elementary schools. This examination was restricted to papers in English and Arithmetic, because it was only in these subjects that a sufficient uniformity of content and method between school and school existed to make the test reasonably fair for all elementary school pupils.

The examination can still claim to be reasonably fair as between different elementary schools, especially in those areas which have supplemented a basic test in English and Arithmetic by group tests of intelligence, by consultation with Head Teachers, and by the inspection of school records. The type of primary education which is given in the public elementary schools is not, however, the only type existing in this country. There are Preparatory Schools and Departments, both public and private, in which a different education is given, with a wider range of subjects and differences of emphasis and method. A common entrance examination, in which the written papers are confined to English and Arithmetic, may easily penalise children who have had a different early training or, in the alternative, may cause

certain schools to adapt their curriculum to the needs of the examination, and so to abandon special features of their work which are of great educational value.

There is no considerable experience as to how the 100 per cent. special place system works when there is not a substantial number of alternative schools available for children who desire a grammar school education, but who are excluded by its operation. Most Authorities who have adopted the system appear to have schools either in their own area or in contiguous areas which are not subject to it and which admit fee-paying pupils who have not been submitted to the common entrance examination. So far as the examination is concerned, we consider that the practical difficulties can be met by that form of the system which alone appears to us to be inherently justifiable. We desire to emphasise, however, that the successful working of this or, indeed, any system is dependent on the provision of sufficient secondary education in its various forms to secure that no pupil shall be debarred from receiving that type of secondary education by which he can best profit. Grammar Schools (and Technical High Schools) are intended for pupils who are remaining at school until at least 16 years of age and who possess a relatively high degree of general intelligence of such a type as to make it desirable that they should receive an education involving the use of abstract ideas to a greater extent than is appropriate in Modern Schools.

34. *Subject to an adequate provision for grammar school and technical high school education, we believe, as has been said, that the general adoption of the* 100 *per cent. special place system is desirable, provided that the system takes a form which it has already been given in various areas and which appears to us to be necessary if equitable results are to be secured.* We consider that the pupils sitting for the examination at 11+ ought to be divided into three classes. We consider that those pupils whom the examination shows to have marked intelligence ought to be placed in a separate class and to have an absolute right to a Special Place although not an absolute right to a Special Place in any particular school. We consider that the line defining this class should be so drawn as to allot in this way something of the order of 50 per cent. of the Special Places. We consider that a second line should be drawn and that no pupil below this line should be admitted by a Head Master unless he can satisfy a referee appointed by the local authority that, as a result of some special cause, e.g. ill

health, the examination was misleading and, on independent grounds, that the pupil's intelligence corresponds to a higher level. We consider however that this second line should be drawn so as to place below it only those pupils who, whatever their previous education, clearly do not possess sufficient academic intelligence to profit from the education afforded by a Grammar School or a Technical High School. Provided the examination is of a balanced character we do not consider that it should be impossible, or even excessively difficult, to draw either line.

We consider that selection should be made to fill the remaining Special Places from among the children who fall between these two lines, regard being had not only to the results of the examination, but also to other factors, and that this should involve, in consequence, in certain cases preferring pupils who get lower marks to those who get higher. In recommending such a system which, as we have said, has been adopted in principle in certain areas, we have in mind three considerations. First, we believe that an examination is capable on the one hand of picking out the pupils of marked ability and on the other hand those whose academic ability is not such as to make suitable for them the forms of education with which we are immediately concerned: but we do not consider that any examination is capable of arranging the intervening pupils in a real order of merit, even if they have all been through the same preliminary education, and still less if their preliminary education has taken different forms. Secondly, the relative capacities of pupils to profit from a grammar school education, subject always to their being able to reach a satisfactory standard of book learning, depends partly on qualities of character and personality which cannot be assessed in marks and reckoned towards a total. Thirdly, it is not strictly the case that in filling a single vacancy the right course is always to take that pupil who will gain most from the school. But it is true that in filling, say, 100 vacancies the object must be to secure that the 100 pupils are so chosen as to gain most as a group. The predominant consideration in selecting each pupil, with a view to securing this end, has regard to the probable gain by that pupil, but consideration must also be given to the pupil's power to contribute as well as to gain. Nothing is more true in education than that the pupils educate each other, a factor which tends to be obscured when the test is an intellectual one. We believe it is easy and dangerous to exaggerate the importance of this consideration

and to make it the basis for attaching improper weight to social and economic considerations, but we are clear that it cannot be ignored, if schools are to do as much as possible for the child population as a whole.

The problem of selection from the middle group remains. This might be entrusted to the Head Master or the Head Mistress of the intaking school, or be placed in the hands of a small *ad hoc* Board including the Heads of the schools. We fully recognise that any system of selection will be criticised, and in individual instances may be open to criticism. We are satisfied, however, that no system which does not involve this element to the extent indicated above can be satisfactory, and we wish to insist that the primary consideration must be to secure that the schools in question are doing all that is in their power for the child population rather than to avoid criticism or, even, to avoid the *possibility* of favouritism. We have more than enough confidence alike in the Head Masters and Head Mistresses concerned and in the sense of justice of such Boards as would be appointed, to have no doubt both that criticism would not in general be convincing and that cases of real favouritism would be few.

35. *We are clear as to the principle that, in so far as the cost of grammar school education is substantially reduced to parents by assistance from public funds, the* 100 *per cent. special place system ought to be generally adopted, and we have made recommendations which appear to us to remove certain possible objections based on the undesirability of selection merely by examination.*

We recognise, however, the importance of a consideration which complicates the position. At present it is a marked and most valuable feature of English education that, whatever the differences, whether they be famous Public Schools or recently established maintained schools, all schools giving a 'grammar school' education are conscious of a real unity. This is due in large measure to the fact that they have a common curriculum and a common method of school organisation. It is, however, due also to the very remarkable degree in which it is not possible at any point to draw a line between schools giving grammar school education, in such a way that *all* schools on one side of the line differ substantially in academic success or even in reputation from *all* schools on the other. From the point of view of administration there are at present five classes among the schools which are concerned: (i) schools in receipt of no public money; (ii) schools

in receipt of a grant from the Board of Education but no grant from the local education authority(1); (iii) schools in receipt of grants from both the Board of Education and the local education authority; (iv) schools in receipt of a 'deficiency grant' from the local education authority and receiving no direct grant; (v) schools wholly maintained by the local education authority. In no case, however, do these purely financial distinctions correspond to any more general differentiation between schools. At no point can a sharp line be drawn.

We would regard it as a grave disaster if anything were done which resulted in a sharp differentiation of the schools concerned into two classes. We recognise that, if the 100 per cent. special place system were introduced unwisely or without safeguards, it might have this effect. *In consequence, we recognise that not only on financial but also on other grounds it may be desirable to extend this system gradually.* Further, we think that certain safeguards are desirable. We would wish to see the following provisions: (i) that separate Governing Bodies should be retained; (ii) that no school should be required to fill more than half its vacancies from children above the upper of the two lines which we have suggested should be drawn on the 11+ examination, although it should be free to do so; it should be required to fill other vacancies from the middle group(2); (iii) that those schools—whether direct or indirect grant—which now have their own examination for their Free Places or Special Places should be allowed, if they wish, to use this examination for filling all their places, subject to such control as the local authority and the Board consider necessary to ensure that the examination is not weighted against pupils educated in public elementary schools; and (iv) that preparatory departments should be encouraged rather than discouraged, subject to their still being required to be financially self-supporting.

36. We believe that the above safeguards should do much to secure what we have in view, but we consider a further safeguard to be necessary. *We think that, in the case of*

(1) Aid by a local education authority to pupils whether by way of fees, maintenance allowances or travelling expenses, does not count as grant to the school.

(2) It will be remembered that we suggested two lines, the first being so drawn that the children above the line would fill 50 per cent. of all the available Special Places in the area, and should have a right to Special Places at some school in the area. The second would be drawn to exclude children who appear unfit for a grammar school education. The children between the two lines form the middle group.

schools in the second and third groups, the Board of Education, after consultation with the local education authority, might continue to require less than 100 *per cent. Special Places, when they are satisfied both that it is in the public interest to take this course and that the number of Special Places in the area as a whole is, or can independently be made, adequate for local needs.* We hold that the Board are entitled to take account of national as well as local considerations and in particular of the desirability of avoiding a rigid line between schools. *We think it desirable that, at least for the time being, there should not merely be two classes of schools, those with no Special Places and those with* 100 *per cent. Special Places, but that schools should be retained of an intermediate type. We consider, however, that the desirability of maintaining this exception should be reviewed five or six years hence.*

37. The proposal to introduce the 100 per cent. special place system brings into prominence the question of Private Schools. The Departmental Committee[1] which reported on private schools in 1932 stated that many were excellent and the majority above serious reproach. But there is no guarantee that this will be the case and we think it of the first importance that the recommendations of the Departmental Committee should be put into force.

Private Schools are not required by the Education Act, 1921, or by any regulation of the Board of Education, to be placed open to inspection. The Education Act does indeed provide in Section 147 that it shall not be a defence to proceedings relating to school attendance that a child is attending a school which gives efficient elementary instruction, unless that school is open to inspection either by the local authority or by the Board of Education. But this is simply to suggest a line of defence to a parent, if the school which the child attends satisfies the conditions named in the section; and to block such a line of defence if the school does not satisfy these conditions. The local authority is, of course, in a strong position when proceeding against a parent for failure to cause his child to be under efficient elementary instruction, if the school does not offer itself for inspection; but inspection *per se* is neither a duty nor a right of the Authority, and no private school is at present compelled to be inspected.

The State therefore which insists on children going to some kind of school does nothing to safeguard the mental, moral and

[1] *Report of Departmental Committee on Private Schools* (1932), p. 84.

physical condition of the schools they attend. Anyone, however ill-qualified, can start a 'school' in premises however unsuited to the purpose. At present only a small proportion of private schools is inspected, although the proportion is relatively high among schools giving a grammar school education. *We think it important that compulsory inspection of private schools should be introduced.*

PART X.—THE SPECIAL PLACE EXAMINATION

38. We have deliberately made no attempt to discuss in this Report the selective examination at 11+ for secondary schools. That topic was dealt with at considerable length in Chapter VII of our Report on *The Education of the Adolescent* (1926) and in Chapter X of our Report on *The Primary School* (1931). In consequence, any discussion of it in the present Report would have been confined to a review of the position in the light of such further evidence as was now available. As, moreover, a Committee of Inspectors is at present considering the examination in detail, it appeared to us that no useful purpose would be served, and that the preparation of our Report would inevitably be delayed, if we tried to cover the same ground.

We desire, however, to make three observations on the bearing of our present Report on this examination. *We believe that the examination is capable of selecting in a high proportion of cases those pupils who quite certainly have so much intelligence, and intelligence of such a character, that without doubt they ought to receive a secondary education of the grammar school type, and also those pupils who quite certainly would not benefit from such an education;* and we believe that the examination will be so much improved in the light of experience and in the light of the report of the Committee of Inspectors, as to increase the accuracy with which these two classes are delimited. *We are recommending that choice for grammar school places as between pupils who fall into neither of these classes should be made on the result of a method of selection, including an interview, in which facts other than their relative place in an order determined by the examination are brought into account.* We make this recommendation, as we explain, in part for the reason that the question as to which of these pupils will benefit most from and contribute most to a Grammar School will very often depend on qualities which no written examination can test; but we make our recommendation the more readily since, even in regard to

examinable capacities, an examination, however devised, is far less trustworthy as a means of placing in order of merit a middle group than in selecting those definitely above and below this group.

Secondly, we think it important to recognise that a Special Place Examination on the present lines is better suited as a test of children educated in public elementary schools than of children who have received some other form of primary education. This consideration supplies a further argument for some other means of selection from the 'middle group.'

Thirdly, we desire to emphasise that no method of choice can work satisfactorily if there is not an adequate supply of grammar school places. We recognise that an "adequate supply of grammar school places" does not mean such a supply as will ensure that children can obtain a grammar school education merely because their parents so desire; but we are clear that the supply is not adequate until there are enough grammar school places to secure a grammar school education for those children who, all things considered, will benefit more from such a course than from such other forms of secondary education as are provided in Technical High Schools and Modern Schools.

PART XI.—ADMINISTRATIVE ARRANGEMENTS FOR POST-CERTIFICATE WORK IN GRAMMAR SCHOOLS

39. We have here to touch upon post-certificate work from an administrative standpoint, on account of the influence of Sixth Forms upon those earlier activities of a Grammar School to which our terms of reference strictly apply; and on account also of the bearing of post-certificate work, in its administrative aspect, upon that part of our reference which concerns 'the interrelation of schools'.

We have already expressed our opinion as to the supreme importance of cultivating Sixth Forms, both for their effect upon the corporate life and internal affairs of a school, and for their effect upon the length of school life and the after-careers of individual pupils.(1) This opinion is upheld by evidence from Teachers' Associations, and other witnesses. Thus, the Incorporated Association of Head Masters, referring to the suggestions which have from time to time been made for the 'grading' of Grammar Schools, with the result that advanced

(1) See p. 166, and *passim*.

work in the post-Certificate stage would be concentrated in 'central' Grammar Schools, pointed out that "if such a policy had been adopted in the past, many of the largest and most efficient secondary schools of to-day would never have arrived." Attempts have been made to seek an analogy between this 'grading' of Grammar Schools and the system of education advocated in our Reports on *The Education of the Adolescent* and *The Primary School*, which contemplated the affiliation of primary schools to centralised Modern Schools. There exists in fact no such analogy. In our former Reports we made it clear that the primary school had a specific function in the *first stage* of education, that it was a self-contained school with its own special problems and opportunities, and that, according to the evidence we had received, the break at the age of 11 had benefited not only the children over 11, for whose advantage it had been originally intended, but also those under 11. In our judgment none of these considerations would apply to a 'beheaded' Grammar School: rather would the opposite be true. Grammar Schools of all kinds exist as a means of education in the *second stage;* and, as the Incorporated Association of Head Masters stated, the growth of the higher work in them has been one of their main sources of strength, "for not only has it acted as a stimulus to the work of the teachers and the pupils, but it has, above all, made possible that free and yet ordered self-government, which shows itself in all the school activities". The Head Masters' Association mentioned, too, a practical aspect of the problem, important to the administrator, that efforts to transfer older pupils had, in the past, frequently caused their withdrawal from school; and they inferred that any such action on a large scale, being doomed to failure, would result merely in "a check in the rise in the average leaving-age and a corresponding waste of public funds". As we have made clear elsewhere, we concur in this opinion.

40. These considerations appear to us decisive for educational administration. The only questions that seem to arise are (*a*) whether there are any circumstances in which some modification of these general principles becomes desirable; (*b*) to what extent small parallel Sixth Forms are justified, and how best they may be avoided. Both of these questions have an important bearing upon the 'interrelation of schools'.

On the first question, *we would say at once that we regard the 'beheading' of small Grammar Schools as a counsel of*

despair. The parents of the children are becoming used to the view that a Grammar School provides normally for the education of pupils who stay beyond the age of 16; and it would have a retrograde effect if the term 'Grammar School' ceased, even in a minority of cases, to have this connotation. Rather should every effort be made by the small Grammar School to give practical encouragement to parents to continue their children's schooling after 16. We believe that the real solution lies not in 'beheading' but in another direction. As we have already indicated(1) *we think it highly important that the Governors and Heads of Grammar Schools should give careful consideration to the framing of post-Certificate courses, appropriate for pupils who are not going on to the University, of a general character but containing where possible elements definitely related to the future careers of the pupils.* These courses would not be designed for the Higher School Certificate, but would be such as to induce parents to keep their children at school at least for a further year.(2)

We consider of great value the possibility of advanced work from the point of view of the teacher, since this work quickens his zest and enthusiasm. We believe that to a considerable and growing extent this result will be secured by the opportunities afforded in teaching such non-University Sixth Forms as we have adumbrated above. There is no doubt, however, that, when possible, preparation for a University should be given in at least one subject, both in order that Masters or Mistresses who are qualified to do so should have the opportunity of preparing clever pupils for the University in their own subjects, and because of the effect on the pupils' intellectual life of the presence among them of some who are taking such a course. We believe that there are relatively few schools in which it would not be possible to secure at least one teacher who could prepare pupils for the University in his own subject, and who would welcome the opportunity of doing so. Further, the existence of a non-University Sixth Form would remove much of the objection to the retention of a small number of pupils who

(1) This matter is discussed at greater length on page 166.

(2) Such courses might be reinforced by part-time attendance at a neighbouring Technical College. On this point there is a lack of unanimity in our evidence and we would not be regarded as laying down any general principle; but we feel that, where conditions are favourable, the possibility of supplementing in this way the teaching power of a Grammar School, and of avoiding the duplication of costly equipment, might well be examined.

would necessarily be working privately for a considerable part of their time, since they might with advantage devote the rest of their time to attending different parts of the non-University Sixth Form course in successive years.

41. We recognise, however, that in a large number of schools it will not be possible to provide teaching up to a University standard in more than one subject save by imposing an altogether improper strain upon individual teachers or at a financial cost, by way of providing additional teachers, which would be prohibitive. In consequence, *circumstances very often arise in which pupils preparing for the University, or for the Higher School Certificate, should not be retained in a small Grammar School, because they cannot be provided in that school with teaching in their best subject. In such cases we consider that transfer is important.* We consider also that Head Masters and Head Mistresses ought to be careful not to press children into taking what is not their best subject in order to retain them. If additional cost is thrown on the parent through such a transfer, it is competent for the local authority to contribute, and we consider that this is an obligation which the local authority may reasonably assume. But, while we believe that such individual cases of transfer at a late age may be met by sympathetic administration, we would prefer that they should not arise. Generally speaking, the problem is one for a County rather than for a County Borough Authority. In some county areas a precedent exists for recognising certain large schools as affording special facilities for highly qualified pupils, whose parents express the desire that their children should remain until 18 years of age, with a view to obtaining the Higher School Certificate and possibly to competing for a University Scholarship. It is made known to the parents that applications on behalf of such pupils (if they are shown to possess high qualifications) to be admitted at the age of 11 to the larger school, instead of to their local Grammar School, will receive favourable consideration, subject to the completion of any necessary undertaking.

42. We turn now to the question of the extent to which *small* parallel Sixth Forms are justified even in larger Grammar Schools. The attempt to develop several types of courses for the Higher School Certificate may, in certain cases, prove to be a costly experiment for the Governors or the local authority, and for the Board of Education. A period, sometimes a considerable period, inevitably elapses before the

success or otherwise of the experiment can be ascertained. There must, however, come a breaking point in the financial administration of a Grammar School, unless some clear understanding is arrived at, after a reasonable time, as to what number of courses is in fact practicable. An instance is afforded by a Grammar School of some 250–300 pupils, in which a laudable effort was made to organise the work of Sixth Forms, so as to allow all pupils to follow that course of study for which they appeared to be individually best fitted, up to the Higher School Certificate standard. The experiment was continued over a period of seven years. At the end of this period, there were three parallel Sixth Forms, of which two were taking full courses for the Higher School Certificate; the third consisted of pupils taking varied one-year courses. Owing to the fact that the school life of the pupils had not been appreciably prolonged, the numbers had risen only to 6 and 8 respectively in the Higher School Certificate Forms, and to 9 in the Form taking the one-year courses. These 23 children were receiving the equivalent of the full-time attention of three senior teachers, with part-time attention from others, the tuition, especially in Art and Science, being sometimes individual. After seven years, the position had to be faced that so liberal a provision of post-Certificate work was financially impossible. If the school had been situated in a large town, a lengthy and over-costly experiment might have been avoided by a mutual understanding with another school. The Board of Education referred, as far back as in the year 1919, to the desirability of these mutual understandings.(1) We cannot go the whole way in agreeing with the Board's opinion as then expressed, that effective organisation is impossible "if each school is treated as an isolated unit free to take its own line independently of all other considerations except its own efficiency and prestige, competing and not co-operating with other schools" We agree rather with the Association of Directors and Secretaries for Education in deprecating "on general grounds any drastic disturbance of pupils at the post-School Certificate stage". Nevertheless, *we think that, from the point of view of practical administration, there may be at times a case for a mutual transfer of pupils among large town schools, and occasionally even among schools in a County area, so that strong Sixth Forms may exist in each school for particular types of Higher School Certificate work.*

(1) Board of Education: Circular 1112, 1919.

PART XII. TRANSFER OF PUPILS

43. In Chapter IV we have urged that there should be a further review of the distribution of children among all schools in the secondary stage at or about the age of 13.(1) We have here to add a note on the general question of transfer, mentioning certain administrative aspects of the problem on which special emphasis has been laid by our witnesses.

Our evidence has sometimes thrown light upon the types of school between which interchange of pupils should be generally encouraged; and the circumstances in which transfer should be exceptional. We refer later to the close relations which, we conceive, should exist between Grammar Schools and Technical High Schools. On the other hand, it was represented to us that a child selected for a Grammar School has displayed qualities fitting him for a course of study of the more academic kind, which is so planned as to extend over a period of at least five years; and that, if he does not belong to the small and (as we hope) diminishing class described by our witnesses as 'misfits', he should stay the course. We concur in this opinion; and, consequently, while we would reserve all possible discretion to the Head of a school to consult the wishes of the parent in particular cases, *we do not consider there will be any general need for transfer from a Grammar School before the age of* 16 *to other than Technical High Schools.*(2) *The fact that we are conscious of the existence of cases in which transfer may be of doubtful value, only brings into clearer perspective our view that the opportunity for transfer should be a reality; that it should depend on educational considerations alone; and that it cannot become general, until all schools in the secondary stage are made equally acceptable to the parent.*

44. The Workers' Educational Association said that "transfer at a later age should be facilitated, in order to make possible the correction of initial errors". This is undoubtedly the chief reason why every local system of administration should contain machinery for this purpose. All our witnesses insisted that a selective examination at about the age of 11 cannot safely be regarded as decisive for the rest of the child's school life, especially when they considered the effect which success or failure might have upon the whole of his future career. But the correction of errors in the original estimate of a child's quality is not the sole reason for making transfers

(1) See p. 182.
(2) See also Chapter IV, pp. 178–9; and Chapter VIII, p. 288–9.

from school to school at a later age possible and easy. Some witnesses spoke of children who 'go off' after entering their new school, apparently like plants after a change of soil, and it is hardly possible to exaggerate the importance of individual attention to these cases. Happily, more numerous are the children who 'come on', and who have to be carefully watched for the late appearance of general ability or for the development of particular aptitudes. The whole situation was summed up by the Incorporated Association of Head Masters in these words: "On the wider curriculum, and in new surroundings, new strength or unexpected weaknesses may appear in individual pupils, fresh aptitudes and tastes may become more clearly indicated, and thus justify the transfer of pupils" The Association of Education Committees called attention to yet another class of children, those who display considerable ability in academic subjects, and prove equally capable in practical work. The number of such children is not small, since intelligence in practical work goes with academic ability far more often than with the absence of it. In view of the needs of industry on the technical side, this class should receive particular care and attention. If there is to be in their case complete freedom of transfer (as the British Association for Commercial and Industrial Education pleaded "not merely in theory, but also in practice"), *it is essential that schools with a strong technical bias should have equal prestige with Grammar Schools. There will probably in the future be little difficulty in transferring such pupils, when the alternative school is a Technical High School.* But, sometimes, especially in rural areas, a Modern School with a technical side, working possibly in association with a neighbouring small Technical College, will be the only alternative type of school available; and transfer will not be easy, even when this school is of the 'selective' character, until there is a clearer and more general recognition of the parity of all schools within the secondary system.

Instances of the transfer of technically-minded children seem as yet to be rare; though several witnesses referred to cases of pupils, definitely intended for an industrial career, who had passed into Junior Technical Schools after some three years in a Grammar School. This is a foreshadowing of the intimate relations which, we hope, will exist in the future between Grammar Schools and Technical High Schools.[1]

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[1] See also Chapter VIII, § 7, pp. 273–4.

At the same time, the incidence of transfer will probably become less, when the Junior Technical Schools that we have in mind are classed as Technical High Schools, with the same admission age as Grammar Schools, and with complete equality of status.

45. Not only have transfers to schools of technical character been rare, but, as our evidence shows, all transference of children from school to school is uncommon, and in most cases difficult, owing mainly to a lack of understanding of the relations which ought to exist between schools in the secondary stage. We have therefore pressed for a closer relationship, and for a freer interchange of pupils. Nevertheless, while we feel that the opportunities for transfer should be greatly enlarged, we do not contemplate anything in the nature of a 'general post'; nor do we think that the need for transfer is equal in all cases. Thus, there is much greater necessity for transfers from a Modern School to a Grammar School or Technical High School than in the opposite direction. As the Association of Directors and Secretaries for Education stated, it is reasonably simple to select at 11+ pupils who have marked academic ability; and, as methods of selection become increasingly successful, there will be a corresponding reduction in the number of 'misfits'. Moreover, as we have mentioned in the case of the Technical High Schools, the more general recognition of the parity of schools will induce parents to choose a Modern School at the outset, if they are persuaded that it is more suited to the aptitudes and actual requirements of their children. When once a child has been admitted to a Grammar School, transfer to a Modern School will, therefore, as a general rule, remain rare. The exception to this general rule is that which we have already mentioned as occurring in areas where it has not been found possible to establish a Technical High School, and where, as the next best thing, a Modern School has been organised with a special technical side.

The kind of transfer which we consider to be undoubtedly of highest importance and of most frequent occurrence is that from Modern Schools to Grammar Schools or Technical High Schools. These are the cases to which we have referred as needing careful watching for the late appearance of general ability or of particular aptitudes, especially when the parent has in the meantime changed his view as to the length of school life and the future career of his child. We, accordingly, welcome

the recent 'Grading Settlement' contained in the new Clause 8 of the Burnham Committee Agreement, whereby the grade of a school, and consequently the salary of the Head Teacher, is protected against any fall in the number of pupils which is due to such transfers.

46. *The Association of Directors and Secretaries for Education held the opinion that the further review, at about the age of* 13, *of the distribution of children should not take the form of a general examination, but that it should be incumbent upon the Heads of schools to prepare returns in respect of those pupils who, in their opinion, would be better placed in other types of secondary school. We are of the same opinion.* We contemplate that this piece of educational machinery will include consultation between the Heads of the schools concerned, and also with the parent; and that in this latter consultation an officer of the local authority might be invited to join, since questions of ways and means will probably arise.

On the special point of facilitating the transfer of pupils, our witnesses confirmed an educational principle which we have advocated on other and more general grounds, that the courses of study between the ages of 11 and 13 should not differ to any marked extent in the various types of school in the secondary stage, and that, in particular, an opportunity should be afforded to the cleverer pupils in Modern Schools of beginning the study of a foreign language before the age of 13. The adoption of this principle has an important bearing upon the whole question of transfer.

CHAPTER X

WELSH PROBLEMS

The importance of special Welsh problems; the Welsh Intermediate Education Act, 1889

1. While many of the problems raised by our terms of reference proved to be the same in Wales as in England, it became clear at an early stage in our inquiry that Wales had problems of its own, and on these we heard considerable evidence. An appreciation of these special problems is necessary in applying to the schools of Wales many of the recommendations we have made as to the internal organisation of Grammar Schools and their relationship to other types of secondary education.

In the Welsh Intermediate Education Act, 1889, Wales with Monmouthshire received a special legislative measure dealing with secondary education. This enactment was in itself evidence of the great demand in Wales for that type of secondary education which we have described generally as 'grammar school' education. Among the consequences of the Act have been the relatively larger percentage of Secondary (Grammar) School pupils in Wales than in England, and the higher percentage of these pupils who enter the University. The schools established under this Act were described as 'Intermediate' because they were intended to bridge simply and completely the gap in Welsh education between the public elementary schools and the University Colleges, which had previously been only partially bridged by the old endowed grammar schools, few in number, and with limited financial resources. When the school leaving-age was raised effectively to 14+, the schools ceased to be 'intermediate' in their original sense; and, further, they tended to grow at both ends, on the one hand by admitting more pupils at the age of 11 and even at that of 10, and on the other hand by retaining pupils till they had attained the age of 18 or 19.

The comparative neglect of provision for technical education in the Welsh Intermediate Education Act, 1889

2. The early founders did not, however, envisage as the only function of their schools that they should prepare pupils for admission to the University Colleges or for entry to the professions. For such pupils 'intermediate' education was

provided. For the remainder, it was intended that there should be 'technical' education, and this was defined as including, *inter alia*, instruction in subjects "applicable to the purposes of agriculture, industries, trade or commercial life and practice suited to the needs of the district"; but it was enacted that "it shall not include teaching the practice of any trade or industry or employment"

Some County Committees in framing their Schemes adopted a less ambitious attitude towards the 'technical' side of education than the Act appeared to intend. A common formula in the Schemes was: "So far as may be consistent with the working of the school, special attention shall be given to instruction in such branches of Natural Science as bear on the trades and industries of the neighbourhood, including agriculture." The framers of some Schemes omitted even this cautious statement of aim, and left the selection of subjects wholly to the discretion of the School Governors.

At the same time, owing to the deficiency of Technical Schools of all kinds, there was in fact a great need, especially in rural areas, for schools which would undertake both 'intermediate' and 'technical' education. Until recently, few schools have provided courses "applicable to the purposes of agriculture, industries, trade or commercial life and practice" for pupils who cannot follow, or do not for their own purposes require, the ordinary courses in literature, science, and mathematics. Perhaps the environment of the schools in their formative period, full of the traditions of the *Eisteddfod*, the Sunday School and *Y Gymanfa Ganu* (Singing Festival) also weighed against the development of the 'technical' side.

Demand in certain areas for a modification of the grammar school curriculum: difficulty of providing alternative intermediate and technical courses in small schools

3. It was, however, brought to our notice that recently in some industrial and in a few rural areas there had been a local demand for a modification of the curriculum for those pupils who proposed to find a career in industry or agriculture. As a consequence, the intention of the authors of the Welsh Intermediate Education Act is now being more fully realised in industrial districts, and to a less extent in rural areas. The recently formed Advisory Council for Technical Education (South Wales) has published memoranda showing the necessity for relating the teaching in all types of schools to technical

needs, both industrial and rural. In this connexion, we would call attention to the recommendations we have made in the section on the Country Grammar School in Chapter IV(1) for the further development of technical, and especially agricultural, education in grammar schools which serve areas where the establishment of Technical High Schools is impracticable.

We fully recognise that the small size of many of the Welsh schools during the major period of their development has made it difficult to provide successfully alternative 'intermediate' and 'technical' courses. In 1916, when the Central Welsh Board investigated the position, about 25 per cent. of the schools had less than 100 pupils, and a further 25 per cent. had between 100 and 125. The numbers in attendance, however, have increased considerably since 1916, and it may be found that the schools generally are now in a position to carry out more completely the schemes of education which were foreshadowed by the authors of the Welsh Intermediate Act(2). The small size of the schools has not been the only deterrent factor. Limitations of staffing, curricula and general facilities are common to all small Grammar Schools, but in Wales there has been the additional handicap of the late age of admission. There is a marked tendency for pupils to enter at the age of 12, or even later, with a consequent shortening of the course. Parents, teachers, and managers of schools in rural areas are even inclined to restrain children from entering at an earlier and more appropriate age. Welsh parents and Governing Bodies should give immediate attention to this question.

The prestige of the Intermediate School in Wales; our suggestion for the establishment of small Grammar Schools which incorporate Modern (Senior) Schools

4. There seems to be little doubt that concentration on the development of the 'Intermediate School' has had a retarding influence on that general school reorganisation which we recommended in our Report on *The Education of the Adolescent* (1926). We understand that there is some apprehension lest the status and efficiency of the Intermediate School may

(1) See pp. 189–97.

(2) Of late years, much has been done towards improving the accommodation and equipment of the Intermediate Schools, and we are told that it is now exceptional to find a school which is not provided with facilities for Domestic Science, Handicraft, and Physical Education.

suffer through the proximity of Modern (Senior) Schools, even though experience in areas where these conditions prevail, has proved that the contrary has been the case. The suggestion we have made for the establishment of small Grammar Schools which *incorporate* Modern (Senior) Schools(1), *may therefore be found to be specially applicable to the conditions in some Welsh areas, and may assist also towards a solution of the problem of providing for the 'technical' side of education.*

So far as Wales is concerned, the idea of such a combined school is not new. Official representations have already been made to extend the function of the Intermediate School, and to develop it into a multilateral school providing, if not for all, at least for a large proportion of those children for whom no special provision is at present made in the secondary stage of education. In 1929, the President of the Board of Education received from a Departmental Committee which was then inquiring into the public system of education in Wales and Monmouthshire, particularly in relation to the needs of rural areas, a suggestion—

> "that alterations in the Secondary School Regulations should be made which would render it permissible to carry on in the same Secondary School building the two types of education: (*a*) that for children up to the age of sixteen and over and (*b*) that for children up to the age of fifteen."

The Board of Education (Welsh Department) Circular 168, which was issued in December, 1929, referred to this suggestion, but found it administratively impracticable owing to the existing difficulties of separate Codes and Salary Scales, which we have discussed in Chapter IX(2), and towards the removal of which we have made concrete recommendations. The Circular, however, suggested a solution whereby Modern (Senior) Schools might be established in close association with Secondary (Grammar) Schools, some of the accommodation in the Secondary Schools, such as halls, gymnasia and special rooms, being shared by pupils in the two types of institution. No experiment on these lines, however, has up to the present been tried out. The Welsh Department, after some consultation with a Joint Committee consisting of representatives of the Board of Education, the University of Wales, the local education authorities and the teachers, have since issued memoranda dealing with the relation between

(1) See pp. 294–7.
(2) See pp. 297–301 and pp. 311–5.

schools providing secondary education, and have suggested schemes of curricula and methods of transfer. *We accordingly recommend that the whole question be re-examined, and that the particular solution of the problem contemplated by the Departmental Committee in* 1929 *be seriously considered, in the light of the suggestion we have made for the establishment of 'Small Grammar Schools which incorporate Modern (Senior) Schools.'*

The bilingual problem

5. We turn now to some other features which give to Welsh education its special background. Those features which have affected the curricula of the schools have been the subject of anxious consideration by both teachers and administrators, ever since the enlargement of the opportunities for education in the secondary stage began to throw a high light upon them. We refer particularly to the problem of bilingualism. It has been for many years the policy of the Board of Education and of the local education authorities to give to the Welsh language a prominent place in the curriculum. For the pupil in an English Grammar School, a classical or modern foreign language is a second language; for the Welsh child it is very often a third language. This necessarily creates a serious problem and for a number of pupils it may well be desirable not to attempt a third language. We had evidence of the various methods proposed for the prevention of undue strain, and we have noted with satisfaction the memoranda published by the Board of Education (Welsh Department) for the guidance of the schools in this matter(1). But whatever the difficulties caused by the native language may be, *we suggest, and we think Welsh educationists generally will agree, that the eventual standard in English to be expected of the boy or girl in a Welsh Grammar School need not be lower than that in the Grammar Schools of England.*

In our Report on *Books in Public Elementary Schools*(2) we recorded our opinion that the existence of the bilingual

(1) See *Suggestions for the Consideration of Education Authorities and Teachers*, Memorandum No. 1, Part II, entitled *Language Teaching during the period of Childhood*, pp. 37–66, issued by the Welsh Department of the Board of Education, 1929.

Suggestions for the Consideration of Local Education Authorities and Teachers, Memorandum No. 2, entitled *Entrance Tests for Admission to Secondary Schools*, p. 11, § 31, issued by the Welsh Department of the Board of Education, 1930.

See also the Report of the Departmental Committee, entitled—*Welsh in Education and Life* (1927).

(2) Report of the Consultative Committee on *Books in Public Elementary Schools* (1928), p. 56.

problem in the public elementary schools warranted the provision by Welsh education authorities of more generous grants for books than had hitherto been customary. We are glad to learn that this recommendation has been adopted in some areas; and *we desire strongly to recommend a similarly generous provision of books both for class use and for library use in the 'Intermediate' or Grammar Schools.*

The demand for free secondary education

6. Another special feature of Welsh education is the markedly high proportion of the child population already attending the Intermediate Schools; and not unrelated to this is the insistent demand for free secondary education which was mentioned by several of our witnesses. This demand is not unnatural in a country in which the two once prosperous industrial counties, containing the great majority of the population, are now scheduled as 'special areas,' and where the remaining counties are almost wholly rural in character. As we have remarked elsewhere, there are in Wales fewer fee-paying pupils, and the 100 per cent. special place system has been more extensively adopted, than in England. From an administrative point of view, these characteristics make the Welsh Intermediate Schools riper for the form of development we have advocated than are similar schools in England(1).

Importance of provision for the teaching of arts and crafts speech training, music, dramatic art, and the history of Wales. The teaching of Scripture

7. There are certain features of Welsh education which must retain a prominent place in the grammar school curriculum, whatever changes the future may bring. The long association of the Welsh people with rural pursuits, and the traditions of skill and pride in simple forms of craftsmanship, poetry, vocal music, oratory, dramatic power, and physical prowess which this association has produced, make it desirable that a liberal provision should be made for the teaching of Arts and Crafts, Speech Training, Music, Dramatic Art, and Physical Education. In particular, the time seems opportune for giving to the teaching of Art a similar measure of attention as to the teaching of languages and science, in view

(1) We refer to the possibility of including in some Schemes of school reorganisation the incorporation of Modern (Senior) Schools with existing 'Intermediate' Schools.

of the efforts made by the University of Wales through its newly appointed Art Committee to give the subject a proper standing in all Welsh educational institutions.

The distinctively national traditions of Wales, in our opinion, require also that a place should be given in all schools to the history of the Principality, which should be taught so far as possible in close connection with Welsh literature and with physical and economic geography.

Lastly, we commend to Welsh schools the full use of the methods of religious instruction proposed in this Report. The witnesses who represented the Federation of Welsh Education Authorities insisted that Welsh Sunday School traditions clearly demanded this. "There is probably," they said, "no part of the country where there is so general an agreement in favour of Biblical instruction for the children as in Wales. It is the view of the Federation that Religious Instruction and a knowledge of the Bible should be an integral and active part of the curriculum for Secondary School pupils."(1)

The Central Welsh Board

8. Wales has an interesting institution in the Central Welsh Board, an examining and inspecting body established in 1896 by Scheme under the Welsh Intermediate Education Act, 1889. This body, which includes among its members many elected members of the local education authorities in addition to members representing the purely expert or academic elements, conducts the inspection and examination of Intermediate Schools established under the Act, and the examination of other Secondary Schools in Wales and Monmouthshire by arrangement with the school authorities concerned. The Central Welsh Board works in close co-operation with the Welsh Department of the Board of Education and with the University of Wales. We received some evidence on the desirability of organising on similar lines a National Council dealing with all forms of education such as was recommended by the Departmental Committee on the Organisation of Secondary Education in Wales, 1920. We do not feel, however, that we are in a position to offer a definite opinion on this proposal to expand the Central Welsh Board into a National Council of Education.

(1) We may place on record here an interesting suggestion which has been made to us for the concurrent study of Welsh and New Testament Greek by able students who can undertake this without undue effort.

CHAPTER XI

SUMMARY OF PRINCIPAL CONCLUSIONS, SUGGESTIONS AND RECOMMENDATIONS

Our conclusions and recommendations are as follows :—

I.—Conclusions based on Chapters I and II

1. The training and education given in the Endowed Grammar Schools, local and non-local, down to the passing of the Grammar School Act, 1840, was originally vocational, since the instruction in the *trivium*, which the Grammar School professed to give, was preparatory to and inextricably connected with the instruction in the *quadrivium* which, in theory at any rate, was given at the University. The general training in the seven arts or sciences was regarded as the indispensable foundation for the specialised studies in the superior faculties of medieval universities. The Grammar Schools were thus institutions preparatory to the Universities, but in course of time the original aims of their curriculum were to a great extent forgotten and the education which they gave, largely based on the Classics, especially Latin(1), was regarded in itself as a ' liberal education '. (Chapter I, §§ 2, 3, 4 and 9 ; Appendix II.)

2. The Grammar Schools, local and non-local, have hitherto been regarded as the standard type of higher school in England and Wales, partly because of their intimate connexion with the ancient Universities of Oxford and Cambridge, partly because they were endowed foundations. (Chapter I, §§ 37, 38 and 43.)

3. In the sixteenth and still more in the seventeenth century it became evident that only a minority of the pupils did in fact proceed to the Universities, and it is significant that the statutes of some Grammar Schools founded or further endowed in the seventeenth century contain provisions for binding some of the grammar school pupils to a trade. The distinction between the so-called liberal education given by Grammar Schools which consisted chiefly in the study of Latin literature and particularly Latin grammar, and the contemporary

(1) The expression ' Latin School ' is still widely used in the Central European countries as a popular name for *Gymnasien* in which Latin forms an important element in the curriculum.

system of apprenticeship, which corresponded broadly to the technical education of modern times, was thus by no means so definite as is often supposed. (Chapter I, § 4.)

4. In the second part of the eighteenth century and during the nineteenth century the Public Schools added considerably to the traditional curriculum based on the Classics and evolved, largely unconsciously, the idea of a general liberal education, which was vaguely conceived as affording a preparation for the liberal professions. The great reputation and position of these schools led to an exceptional prestige being attached to this conception of a general liberal education, as distinct from any form of secondary (higher) education based largely on technical or quasi-vocational studies directed towards industry, commerce or agriculture. (Chapter I, §§ 8, 10 and Appendix II.)

5. Many attempts were made in private and unendowed schools to develop types of curriculum which corresponded more nearly with the requirements of contemporary life. This tendency may be traced in the Nonconformist Academies of the seventeenth century, in the Commercial Academies and Commercial Schools established by private effort in many of the towns during the eighteenth century, in the Proprietary Schools and the Middle Class Schools founded in the middle decades of the last century, in the Higher Grade Schools established by a number of School Boards from about 1875, and in the Organised Science Schools conducted under the auspices of the Department of Science and Art. Nevertheless, partly owing to the fact that most of these schools were not endowed institutions, schools providing newer types of curriculum were not always able to acquire in popular esteem the prestige and respect attaching to the Public Schools and the endowed Grammar Schools. (Chapter I, §§ 8, 11, 13, 14, 26 and 36.)

6. Extensive traces of this phase in the development of ideas about education still survive in the latent prejudice against technical or quasi-vocational studies and in the great prestige which still in many quarters attaches to the academic curriculum in the widest sense, as distinct from handicraft and those studies which have some more direct bearing on industry, commerce and agriculture. (Chapter I, §§ 31, 37, 40, 45, and *passim*.)

7. From the date of the publication of the Second Report of the Royal Commission on Technical Instruction in 1884, well-informed educational opinion in England and Wales

was disposed to hold the concepts of technical education and secondary education in close association. This tendency found expression in the Welsh Intermediate Education Act, 1889, which contains definitions of intermediate and technical education, and in the Technical Instruction Act, 1889. The theory underlying this view is clearly stated in a passage of the Report of the Royal Commission on Secondary Education, 1895, which we quote in full in Chapter I, § 31. (Chapter I, §§ 28 to 33.)

8. This point of view was not taken into account in the Regulations for Secondary Schools for 1904–5, in which great stress was laid on the provision of general courses for boys and girls between the ages of 11 or 12 and 16 or 17, and in which any specialisation of a vocational character at this stage was discouraged. These Regulations thus introduced an unnecessary and unreal cleavage between secondary and technical education. (Chapter I, §§ 37 and 38.)

9. Although there had been many suggestive and fertile experiments in the direction of developing other types of secondary education, such as commercial schools, quasi-vocational schools, technical schools, etc., the force of tradition was so great that, when, under the Education Act, 1902, the State undertook for the first time the general organisation of Secondary Schools, the ancient grammar school, local or non-local, was taken as almost the exclusive model for Secondary Schools. This was perhaps almost inevitable, but we consider it unfortunate that little or no attempt was made at this stage in the development of secondary education to foster the provision of secondary schools of technical or quasi-vocational character. (Chapter I, §§ 37 to 38.)

10. In 1913 the Board receded from their policy of encouraging purely general courses and, by allowing within reasonable limits some specialisation and incipient vocational work for pupils below the age of 16 in the middle school, reverted to the point of view expressed in the Report of the Royal Commission on Secondary Education, 1895. (Chapter I, § 40.)

11. The encouragement given to incipient vocational work for pupils below the age of 16 in the Board's Memorandum on Curricula (Circular 826, 1913) had little effect in checking the tendency to uniformity in the general curriculum for the middle part of Grammar Schools which had been becoming more and more marked since the issue of the Regulations for Secondary Schools in 1904. This tendency was greatly

reinforced and consolidated by the arrangements adopted in 1917 for the organisation of the First School (Certificate) Examination.

In general, three main influences, which have combined to produce uniformity in the curriculum for pupils below the age of 16 in most Secondary Schools, may be distinguished, viz. :—

(*a*) The prestige of the Public Schools and Grammar Schools which has tended to assimilate the newer types of Secondary School and particularly those maintained or aided by local education authorities to the traditional grammar school type ;

(*b*) The reinforcement of this natural adherence to a traditional type of higher education by the Regulations for Secondary Schools issued by the Board of Education in 1904–1905 and in subsequent years ;

(*c*) The institution of the First School (Certificate) Examination in 1917, which has had the effect of strengthening and intensifying this tendency towards uniformity. (Chapter I, §§ 40, 42 and 43 ; Chapter II, § 7.)

12. In the last three decades the traditional views about the academic grammar school curriculum have been considerably modified by the development of at least two main types of non-academic secondary education, namely the curricula which are being evolved in Modern (Senior) Schools, for pupils above the age of 11+ in accordance with the suggestions in our Report on *The Education of the Adolescent* (1926) and the realistic curriculum which has been developed in Junior Technical Schools for boys associated with the engineering and building industries. It is being realised that it is possible to develop types of secondary (post-primary) education of high educative value on non-academic lines with a certain bearing, more or less direct, on industry, commerce, and agriculture. (Chapter I, § 45 and Note on p. 86.)

13. We are of opinion that the present difficulties in the field of secondary education have arisen largely out of the confusion which began about 1904 between a type of post-primary education appropriate to the needs of boys and girls between the ages of 11–12 and 16–17 and the traditional academic course directed towards the Universities. (Chapter I, § 38.)

14. A careful study of the development of secondary education in England and Wales, particularly since 1900, and an examination of the present position as revealed by the

statistics summarised in Chapter II (which show a striking disparity between the provision for secondary education of an academic type and that for whole-time junior technical education) leave us with the general impression that the existing arrangements for the whole-time higher education of boys and girls above the age of 11+ in England and Wales have ceased to correspond with the actual structure of modern society and with the economic facts of the situation. (Chapters I and II *passim*.)

II.—Conclusions and recommendations based on the evidence regarding the physical development of boys and girls between the ages of eleven and sixteen.

Skeletal growth during puberty and adolescence

15. Since the growth and union of the different bones at the elbow, shoulder, forearm, and other parts of the human body is not complete till between the ages of 16 and 19, we consider that no adolescent should be allowed to do heavy continuous muscular work either in or out of school, particularly if it involves postural fatigue. Great care should be taken to ensure that children do not overtax their strength in the school garden or at the work bench. It is evident also that the known facts about bone growth should be borne in mind in arranging games and physical exercises for boys and girls at this age period. (Chapter III, Part I, § 3.)

Liability to spinal curvature

16. Since children above the age of 11 are rather liable to various forms of spinal curvature, and since fatigue plays an important part in aggravating any tendency to such curvature, we recommend that the importance of adequate rest in a suitable position should receive careful consideration. We would stress the importance of maintaining a good posture in writing, and in typewriting; and the necessity of providing, for typewriting especially, appropriate modern equipment with skilled supervision. Like considerations apply to the equipment of Domestic Science rooms, in which stools of variable height or fitted with adjustable backs, and foot-rests, should be supplied for needlework lessons. Similar arrangements should be made in laboratories to meet the needs of pupils of varying heights. (Chapter III, Part I, §§ 4 and 5.)

17. Since the form of curvature resulting in bent and twisted back known as scoliosis, may be induced or aggravated by carrying on the arms heavy satchels and overcoats to and from school or, among girls, by performing domestic duties which involve carrying heavy weights on one side of the body, we recommend that care should be taken not to allow adolescent children to carry habitually unduly heavy weights. We are strongly of opinion that the parents of girls in Secondary Schools should not expect of them any undue amount of domestic work in the home. (Chapter III, Part I, § 5.)

Glandular disturbances at puberty

18. In view of the glandular disturbances which are apt to occur at puberty, we consider that teachers should bear in mind that self-control is comparatively easy for some children but very difficult for others, and that such differences may have a physical basis for which the individual child is not wholly responsible. Since the physical and mental changes which take place in boys and girls at puberty may impose a certain amount of strain, we strongly recommend that special attention should be directed during adolescence towards the provision of a liberal dietary, and well balanced periods for exercise, rest and sleep. (Chapter III, Part I, §§ 6 and 7.)

The after-effects of acute rheumatism

19. Since the available statistics indicate that a considerable proportion of children in the age group 10 to 14 suffer from rheumatic fever or its effects, we suggest that parents and teachers should bear in mind that so-called 'growing pains' may in some cases be a manifestation of this disease in a sub-acute form. Teachers and parents may play a most helpful part by ensuring compliance with medical advice as to the physical activities which may safely and appropriately be undertaken by a child who has had an attack of rheumatic fever and has then returned to school, possibly with a damaged heart. (Chapter III, Part I, § 8.)

Medical Inspection and Treatment in Grammar Schools

20. For the reasons stated in Section 9 of Chapter III, we are strongly of opinion that the practice of providing medical, including dental, treatment for pupils in Grammar (Secondary) Schools should now be made universal. (Chapter III, Part I, § 9.)

Systematic Inquiries by School Medical Officers

21. We consider that the work of the medical officers who inspect pupils in Grammar Schools might be made more fruitful in its results if inquiries of wider scope were undertaken on various important matters affecting the health and well-being of pupils, such as those mentioned in Section 9 of Chapter III. (Chapter III, Part I, § 9.)

School Dinners

22. We think it desirable that pupils in Grammar Schools maintained or aided by the local authority should be able to obtain midday meals at a moderate charge, and that in arranging the dietary for such meals the school medical staff should be consulted, as is already the case in some areas. (Chapter III, Part I, § 9.)

23. To this end adequate dining rooms and kitchens with modern labour-saving equipment should be provided in Grammar Schools, and the arrangements for the meals should be placed under expert supervision. (Chapter III, Part I, § 9.)

Physical and Mental Fatigue

24. We consider that the question of physical and mental fatigue in boys and girls between the ages of 11+ and 16+ merits special attention, and we suggest that medical officers should be encouraged, in consultation with the teachers, to consider and report on any evidence of physical or mental strain occurring in the course of school work, including home-work. (Chapter III, Part I, § 9.)

25. We recommend that means should be taken to ensure that, so far as possible, teachers are enabled to refer suspected cases of strain, whether mental or physical, to school medical officers as soon as they are observed instead of waiting for a routine inspection. (Chapter III, Part I, § 9.)

26. We think that tactful and sympathetic inquiry is particularly needed in regard to many children who undergo added strain on account of poverty or unfavourable housing conditions, or by reason of undue pressure exercised by ambitious parents. In such cases, the suggestions of the school medical staff may more readily be acted upon when close contact is maintained with the parents by periodical conferences, Parents' Days, and Parents' Associations. (Chapter III, Part I, § 9.)

Physical Exercises and Games

27. We suggest that systematic inquiries should be undertaken with a view to ascertaining what physical exercises and games are most appropriate for boys and girls at successive stages between the ages of 11+ and 16+ in schools of different types, with special reference to the peculiar needs of day pupils who have to travel considerable distances to and from school. (Chapter III, Part I, § 9.)

III.—Conclusions, suggestions, and recommendations based on the evidence regarding the mental development of boys and girls between the ages of eleven and sixteen

The general character of adolescence

28. Adolescence or puberty is now regarded by psychologists not as a sudden interruption overtaking all children at the same age, but rather as the culmination of a slow process of growth which has been proceeding steadily from birth at varying rates in different individuals. (Chapter III, Part II, § 10.)

29. Many of the apparently new characteristics of children at the adolescent stage are to a great extent induced by external changes in the scholastic, domestic and economic conditions affecting the individual child. (Chapter III, Part II, § 10.)

30. The mental changes and modifications of character which occur at the adolescent period are now regarded as being mainly due to the maturing of the sex glands. (Chapter III, Part II, § 10.)

Mental characteristics; The Faculty Psychology

31. The theory that the salient feature in mental development was the successive emergence of specific intellectual faculties—sense, movement, speech, memory, imagination, reasoning—each appearing at fairly definite periods, has now been generally abandoned, and much doubt has been thrown on the view that the mind as a whole and its several intellectual faculties can be trained merely by exercising them. We now regard education as consisting in the development of specific habits, memories, ideas, forms of manual and mental skill, intellectual interests, moral ideals, and a knowledge of methods as well as of mere facts and conclusions. (Chapter III, Part II, § 11; Appendix IV.)

32. Recent research indicates that intellectual growth in general and in its more specific aspects is not spasmodic but fairly uniform up to the time that development ceases. Even when individual children appear to display new talents or special gifts at a fairly definite date, it is probable that such changes are the outcome of emotional rather than intellectual causes, being due to the acquisition of new interests rather than to the emergence of fresh aptitudes. (Chapter III, Part II, § 11.)

General Intelligence

33. Intellectual development during childhood appears to progress as if it were governed largely by a single central factor, usually known as ' general intelligence ', which may be broadly described as innate all-round intellectual ability. It appears to enter into everything which the child attempts to think or say or do, and seems on the whole to be the most important factor in determining his work in the classroom. (Chapter III, Part II, § 12.)

Intellectual characteristics

34. The most noticeable feature of the period after the age of 11 on the intellectual side is the gradual retardation from about the age of 12 in the development of ' general intelligence ' as measured by psychological tests. The average child appears to attain the effective limit of development between the ages of 16 and 18. (Chapter III, Part II, § 12.)

35. Psychologists claim that it is possible at a very early age to predict with some degree of accuracy the ultimate level of a child's general intelligence, but this holds good only of general intelligence and not of specific aptitudes or interests. (Chapter III, Part II, § 12.)

36. Modern psychology stresses the wide individual differences in intellectual and emotional characteristics. One child differs from another far more than is generally supposed, and the notion that every normal child follows the same general course of development is mistaken. (Chapter III, Part II, § 12.)

37. Since the ratio of each child's mental age to his chronological age remains approximately the same, while his chronological age increases, the mental differences between one child and another will grow larger and larger and will reach a maximum during adolescence. It is accordingly

evident that different children from the age of 11, if justice is to be done to their varying capacities, require types of education varying in certain important respects. (Chapter III, Part II, § 12.)

Motor capacities

38. Towards puberty there is frequently a definite deterioration in nicety of control, due partly to physical causes and partly to a definite increase in nervous and emotional instability at early adolescence, which shows itself in a temporary decline in neuro-muscular co-ordination. The growing boy suffers most in this respect, the growing girl usually to a less degree. (Chapter III, Part II, § 13.)

Sensory capacities: Vision: Hearing

39. Though there seems to be little or no change in the sense organs themselves between the ages of 11 and 16, myopia or short sight appears to become more common.

The power of listening appears to improve at this period, and there is definite progress in the ability of the ordinary child to concentrate on pure hearing with little or no aid from the more concrete sense of sight. (Chapter III, Part II, § 14.)

Attention

40. The most striking development in mental power in children at this age period is the increasing scope of their attention. The development of attention seems to depend largely on the development of general intelligence. This increasing range of concentration has an evident bearing on the organisation of the time-table and on the length and complexity of the tasks that may appropriately be set. (Chapter III, Part II, § 15.)

Memory

41. The development in the scope of attention brings with it a corresponding increase in capacity to learn and remember. Mere mechanical retentiveness in memory seems to reach its maximum by the age of 11, but the power of intelligent recollection goes on increasing. Older children are accordingly less disposed to rely on mere mechanisation, and dislike drudgery and drill, preferring to base their power of recollection on interest and comprehension. (Chapter III, Part II, § 16.)

Imagery : Reproductive imagination

42. Not only the strength but also the type of memory seems definitely to change after the age of 11. Up to that age the memory of the average child is concrete rather than verbal. By the age of 11 as the result of listening, reading and trying to express himself through speech and writing, the pupil has acquired the capacity to formulate his ideas to himself more concisely in language instead of thinking in the old inadequate fashion by means of mental pictures. (Chapter III, Part II, § 17.)

43. As adolescence advances, there is often a revival in the vividness of imagery. There is accordingly both a possibility and a need for training and disciplining the imagination at this stage of development. (Chapter III, Part II, § 17.)

Reasoning

44. Reasoning is essentially dependent upon the power to perceive relations and to relate those relations to each other, so as to form a coherent and consistent system. By the age of 9 or 10 the average child can deal to some extent with spatial relations. The power to argue logically about time relations develops rather later, and causal relations are not clearly understood, as a rule, till about the age of 13 or 14. Owing to their increased power of dealing with verbal concepts, older children become more capable of abstract thought and inference. We agree with many of our witnesses in thinking that the reasoning capacities of children are rather under-estimated by current methods of education. Logical reasoning should be regarded as a technique that can be taught. We accordingly consider that it is most important to foster and encourage systematic and accurate thinking in all types of school, and to give the pupils ideas of proof and of systematic discovery and experiment. (Chapter III, Part II, § 18.)

45. For the reasons stated in Section 13 of Chapter III, we urge that children should, so far as possible, be trained at school to think and reason for themselves, in order that they may be in a position as adults to examine critically and objectively the many forms of mass suggestion which will inevitably meet them in later life. (Chapter III, Part II, § 18.)

46. While we fully recognise that it is desirable that children should be encouraged to reflect about political, social and economic problems, we think on the whole that their capacity

to deal effectively with these problems in later life can best be trained, on the one hand by encouraging them to take an intelligent interest in problems which arise in the ordinary life and work of the school, and on the other hand by inculcating the need for a similar attitude in later life. The habit of independent judgment may be fostered by providing them at school with suitable opportunities of thinking and reasoning for themselves. (Chapter III, Part II, § 18.)

Formal Training and Transfer of Training

47. The doctrine of formal training, like the doctrine of the faculties with which it was closely associated, has been subjected to severe criticism by practical teachers and by psychologists. The current view may be broadly summarised as follows:—Transfer of improvement occurs only when there are common usable elements, shared both by the activity used for the training and also by the activity in which the results of that training reappear. The more the influenced and the influencing activities resemble one another, the greater the influence is likely to be. Transfer of training appears to be much less certain and less widely spread than was formerly believed.(1) (Chapter III, Part II, § 19; Appendix V.)

Emotional Development

General emotional characteristics

48. The most salient characteristics of puberty are changes not so much in intellect and aptitude, as in character and temperament. The simpler or primary emotions seem to be most directly affected, and these are now known to be closely dependent on glandular secretions. The final maturing of the glandular system is accompanied by noticeable changes in feeling and impulse. It is most important that teachers and parents should realise the wide differences between one child and another both in detailed knowledge and in specific emotion, and the dangers which may arise if every pupil be treated alike. (Chapter III, Part II, § 20.)

(1) It is difficult and rather unsatisfactory to attempt to summarise briefly the current views of psychologists about transfer. We therefore strongly recommend readers of this Report to peruse with special care Section 19 of Chapter III, together with Professor Burt's Note in Appendix IV on the Faculty Psychology, and Professor Hamley's Note in Appendix V on the Cognitive Aspects of Transfer.

Social impulses

49. Since the social impulses or instincts develop rapidly about the age of 12 or 13, the period of adolescence is the most appropriate time for organising co-operative work in classrooms and outside, and for enrolling boys and girls as members of some team or club if this has not previously been done. (Chapter III, Part II, § 21.)

Self-assertion and submission

50. Since the instincts of self-assertion and self-submission, and the corresponding emotions which may be broadly described as pride and humility, usually develop in boys and girls at this stage, parents and teachers cannot expect the same degree of blind obedience or frank confidence that they have hitherto received. Children at this 'awkward age' should be treated more and more as equals and as adults; as far as possible outlets should be provided for their new impulses and in school every reasonable opportunity should be afforded for initiative and independent work. (Chapter III, Part II, § 22.)

Curiosity and other self-assertive impulses

51. We consider that the group of impulses broadly described as curiosity which emerge at this period may offer a powerful handle for intellectual instruction. If curiosity be encouraged rather than repressed, then the pupil's own insistent questions and inquiries may often furnish valuable hints for the lines which school instruction and school methods may usefully follow. This is one reason for applying a heuristic procedure within reasonable limits to the principal subjects of the curriculum. (Chapter III, Part II, § 23.)

Depressive emotions

52. All the emotions, inhibitive as well as aggressive, are strengthened at this point of development. The instincts and feelings mentioned above manifest themselves more or less openly, but there are others which show themselves in less obvious ways. Side by side with a self-assertive display of power and vanity there is often present a secret feeling of humility and a certain sense of inferiority associated with fresh fears and fresh capacities for disgust. We would suggest that teachers should be on the watch for symptoms of these

depressive emotions and should take appropriate steps to prevent children from becoming unduly shy, reticent, awkward and even neurotic. (Chapter III, Part II, § 24.)

The apparent inconsistencies of adolescents

53. The essential characteristic of adolescence is a strong intensification of emotional energy with a temporary tendency to mental disorganisation. The child's impulses towards action are for the time being stronger than his powers of intelligent control. We accordingly suggest that the unbalanced attitude of some children at this stage should be treated with tact and sympathy, since the tendencies to wild irresponsible behaviour usually disappear as the individual child settles down towards the close of adolescence. (Chapter III, Part II, § 25.)

Self-consciousness

54. A new and very varied self-consciousness is one of the most salient characteristics of adolescent boys and girls, and we would point out that it provides one of the most ready means for moulding their moral character. (Chapter III, Part II, § 26.)

Heredity and environmental influences

55. While we think that due account should be taken by teachers and parents of the special factors mentioned above which arise in adolescence and affect the character, we recognise that the most important influences, such as heredity and social environment, are not specially connected with adolescence. Moreover, faults of character do not cease to have a moral significance because they are intensified by the special conditions which arise at adolescence and by other factors. (Chapter III, Part II, § 27.)

IV.—Conclusions and Recommendations regarding the curriculum for the secondary stage in education

56. Schools of every type fulfil their proper purpose in so far as they foster the free growth of individuality, helping every boy and girl to achieve the highest degree of individual development of which he or she is capable in and through the life of a society. (Chapter IV, Part II, § 12.)

57. The national tradition must be the basis of an effective education. (Chapter IV, Part II, § 13.)

58. The prime duty of a school providing secondary education is to cater for the needs of children who are entering and passing through the stage of adolescence, giving the pre-adolescent and adolescent years a life which answers to their special needs and brings out their special values. (Chapter IV, Part II, § 11 and Part III, § 24.)

59. The curriculum should be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored. (Chapter IV, Part II, § 13.)

60. Both the conservative and creative elements in the activities of the community must be represented in the curriculum and a larger share must be found for those activities which are creative. (Chapter IV, Part II, § 15.)

61. The studies of schools providing secondary education should be brought into closer contact than at present with the practical affairs of life. (Chapter IV, Part II, § 18.)

62. While studies should not be introduced which are beyond the present comprehension and unrelated to the present experience of pupils, yet, especially towards the end of the course, studies may well be introduced to a limited extent which have a definite bearing on the next stage of their life. (Chapter IV, Part II, § 13.)

63. A ' tutorial system ' should be widely tried in all types of schools providing secondary education. (Chapter IV, Part V, § 53.)

64. We recommend the growing practice in large schools of including on the staff a ' Careers Master '. (Chapter IV, Part V, § 53.)

Conclusions and Recommendations with special reference to Grammar (Secondary) Schools

65. Grammar Schools should continue to provide a suitable education for boys and girls who are likely to proceed to a University. (Chapter IV, Part III, § 22.)

66. The Sixth Form is the most characteristic and most valuable feature in a Grammar School in the training of character and a sense of responsibility; the grammar school tradition depends on its existence. The tendency of pupils, other than those preparing for the University, to remain longer at school should be encouraged by the extension of courses for

pupils who are not going on to the University, and wide liberty should be left to schools in the choice and arrangement of these courses. (Chapter IV, Part III, § 22.)(1)

67. The School Certificate Examination dominates the curriculum unduly. It should follow the curriculum, not determine it. (Chapter IV, Part I, § 4, and Part III, § 44.)(2)

The curriculum of Grammar Schools

68. Grammar Schools should continue to offer opportunities for instruction in all the subjects laid down in the official Regulations for Secondary Schools, Regulation 7. This does not mean that all pupils must study all these subjects at the same time, or for the whole of their school life. (Chapter IV, Part I, § 2, Part II, § 15, Part III, §§ 20, 30 and 43.)

69. As much freedom as possible should be left to schools in the selection of studies and in their content. (Chapter IV, Part III, § 25).

70. In all Grammar Schools, all the pupils should, for the first two years after entry, i.e., up to the age of about 13½, follow a curriculum which contains English subjects (including English itself, Scripture, History, Geography), Mathematics, Science, Music, Art, Handicraft or Domestic Science and Physical Education, and in addition one foreign language. (Chapter IV, Part III, § 40.)(3)

71. At the end of the second year, each school should make a careful review of its pupils in the light of what has been observed of their progress, tastes and general development during the two preceding years. (Chapter IV, Part III, § 40.)(4)

72. In the third and later years, schools should be allowed to reduce the number of subjects studied at any one time, provided these include English, some Science (or Mathematics) and in most cases one foreign language. The content of school mathematics should be reduced, and the course in Science simplified, and greater variation in the level to which other subjects are carried should be accepted in the School Certificate Examination. (Chapter IV, Part III, § 43).

(1) See also Recommendations 156–60.
(2) See also Chapter VII, The School Certificate Examination.
(3) See Recommendation 92.
(4) See also Recommendations 119 and 144–8 of this chapter dealing with transfer of pupils at the age of 13+, and Chapter VIII, § 7.

73. Each school should adopt a unifying principle in its curriculum, and this should be found in the teaching of English and the other English subjects. (Chapter IV, Part III, § 31.)

74. The study of specified books in English literature should no longer be prescribed in the School Certificate Examination. (Chapter IV, Part III, § 32.)

75. All pupils should be given the chance of learning at least one foreign language. In the first year of the study of a foreign language it should receive as much as one lesson a day, and those who, after a fair trial, show no signs of an aptitude for linguistic studies should be allowed to drop it. (Chapter IV, Part III, § 33.)

76. All pupils whose taste and aptitude justify the study of a second foreign language should begin this about a year after taking up the first. (Chapter IV, Part III, § 34.)

77. Latin should be so taught that something definite is gained by the pupils who do not continue it after the age of 16. (Chapter IV, Part III, § 34.)

78. School mathematics should be taught as one of the main lines which the creative spirit of man has followed in its development. If it be taught with this purpose it will be no longer necessary to devote the number of hours to the subject that are now generally assumed to be necessary. (Chapter IV, Part III, § 35.)

79. The common practice of concentrating from the beginning on a systematic study of particular sciences lays too early a stress on abstract theory and too little on the earlier phases of 'romance' and 'utility', and is not the best approach to science for adolescent pupils. (Chapter IV, Part III, § 36.)

80. Physical Education should receive greater emphasis in the curriculum and a larger share in the time-table. (Chapter IV, Part III, § 28.)

81. A more prominent and established place in the ordinary curriculum of schools both for boys and girls should be assigned to aesthetic subjects, including Music, Art, and other forms of aesthetic training, and special attention should be paid to developing the capacity for artistic appreciation as distinct from executive skill. (Chapter IV, Part III, § 29.)

82. Scripture should be taught primarily with a view to the understanding of what the various books of the Bible were in fact intended to mean by their authors for their original readers.(1) (Chapter IV, Part III, § 27.)

Specialisation of a vocational character

83. Preparation for a vocation is an important part of education, but any specialised training of a vocational character should come towards the end of school life. (Chapter IV, Part III, § 37.)

84. In areas in which many pupils leave at, or shortly before the age of 16 to obtain clerical posts in industry and commerce, opportunities to acquire the mechanical skills of typewriting and shorthand should be given them after the age of 15. It is essential that such training should be given with an equipment and accommodation that do not fall below the standard required for other subjects, and by teachers of equivalent qualifications. (Chapter IV, Part III, § 37.)

85. Economics as a specific subject should not be included as a separate subject of the curriculum before the age of 16. (Chapter IV, Part III, § 38.)

Formal instruction

86. The time-table should not be filled with periods of formal instruction. (Chapter IV, Part III, § 43.)

Homework

87. No homework should be set to Junior Forms in which the majority of the pupils are under 11; less should be required of the younger Forms than of the older; and the quota set for the week-end should not exceed that set on the other days of the week. (Chapter III, Part III, § 39.)

Corporate activities

88. Organised activities should not occupy the whole of the hours that are spent outside the classroom. (Chapter IV, Part IV, § 51.)

89. The internal organisation of the corporate life of a school for specific purposes should be left to the pupils, even though it can be done more easily by the staff. (Chapter IV, Part V, § 51.)

(1) In Chapter V we make some suggestions in regard to the teaching of Scripture by specialist teachers.

The Country Grammar School

90. We recommend that the country Grammar School should take full advantage of the opportunities afforded by its rural environment in framing syllabuses which have a high practical value derived from their close affinity to the world outside the school. (Chapter IV, Part IV, § 45.)

91. The school garden and orchard, and a little land on which some livestock, such as bees and poultry, may be kept, are the outdoor laboratories of the country Grammar School. We consider it essential for their proper maintenance as an integral part of the science accommodation of the school that there should be some hired labour for routine manual work. (Chapter IV, Part IV, § 46.)

92. We hold that all secondary schools should follow a similar curriculum for the first two years of their course.(1) We are not disposed to make any exception for the country Grammar School in the framework of the curriculum for these years. In the third year the difference will be mainly one of emphasis, and may affect the periods allocated to the various subjects rather than the treatment of those subjects. (Chapter IV, Part IV, § 46.)

(i) *Local Survey.*—In addition to the practical work mentioned in Recommendation 91, we think that special prominence should be assigned in the curriculum to the Local Survey, which might well serve as the basis of much of the teaching both in Geography and in History. (Chapter IV, Part IV, § 46.)

(ii) *Arithmetic* and *Simple Geometry* may be studied in country Grammar Schools in their more practical aspects. Calculations might be based on the work of the farm, and Geometry should include the measurement of gradients and simple surveying. (Chapter IV, Part IV, § 47.)

(iii) *Science.*—The broad outlines of the curriculum in General Science admit of adaptation to meet the special requirements of country schools. We desire particularly to emphasise the need for more biological teaching. We consider that Biology is a fundamental element in any course of science teaching judged to be suitable for a rural school: not only because of its practical application to the problems of plant and animal life, but also because a knowledge of Biology creates a fresh consciousness and appreciation of the manifold interests which life in the country has to offer, and a new

(1) See Recommendation 70.

attitude of mind towards the agricultural industry. (Chapter IV, Part IV, § 47.)

(iv) *Craft Training* in the country Grammar School does not differ materially from that given in urban schools. Owing to the mechanisation of agriculture, the teaching of Handicraft for the older boys will approach closely to what may be described as 'elementary engineering'. (Chapter IV, Part IV, § 47.)

(v) *Domestic Science.*—Courses for girls should include training in the utilisation and preservation of farm and garden produce. If the school possesses a dairy, such courses should also include dairywork. (Chapter IV, Part IV, § 47.)

93. In country Grammar Schools which develop a definite agricultural bias'(1), the divergence between such schools and those which impart a 'rural colour' to a curriculum of the traditional type will begin in the higher forms at about the age of 15. We consider that these schools should offer courses of more specific agricultural training, for which specialist instructors, a school farm, and more extensive equipment become necessary, together with modifications of the time-table involving a longer school day and remission of homework. (Chapter IV, Part IV, § 46.)

94. In districts which are not mainly agricultural, the local authority may desire, in the interests of some of the pupils, to provide an alternative science course containing engineering elements. We recommend that any alternative course of this character should fall within the general framework of a grammar school education, and should be fundamentally a course in simple engineering physics, with such changes of emphasis in the teaching of mechanics as arise from the greater stress laid on the applications of the science and the appropriate illustrations drawn from engineering practice. (Chapter IV, Part IV, § 47.)

Recommendation Regarding Chapters V and VI

95. We have not summarised in this chapter the important recommendations regarding Scripture, English, Classics, Mathematics and Science, which we have discussed in Chapters V and VI, since the significance of these recommendations cannot be understood properly save in the context of that discussion. We express the hope that Governing Bodies and teachers will give careful consideration to these chapters.

(1) See Recommendation 155.

V.—The First School (Certificate) Examination

96. While we fully recognise that the School Certificate Examination has been one factor in raising the general standard of attainment in school subjects to a level which could hardly have been reached without the incentive of a public external examination, and that it has also prevented narrow specialisation for pupils below the age of 16, we nevertheless think that this examination is affecting, and often adversely, not only the courses of study and methods of instruction, but also the physical health and mental outlook of many pupils. (Chapter VII, § 2.)(1)

97. Though at the inception of this examination it was regarded as a cardinal principle that the examination should follow the curriculum and not determine it, we consider that it has had the effect of intensifying the tendency towards uniformity in the curriculum for pupils under the age of 16. (Chapter VII, § 3 and also Chapter I, § 42 and Chapter II, § 7.)

98. We think that the demands of this examination as at present constituted, the rigour of the preparation for it, and the importance attached to the School Certificate by employers and others, are such as cumulatively to cause overstrain and excessive anxiety in many pupils, especially in cases where the possibility or degree of financial help for further education depends on the result of the examination. (Chapter VII, § 4.)

99. We consider that a dominant cause of the pressure exercised on pupils preparing for this examination is the fact that it has been used at the same time for two distinct purposes :—

(i) to test the results of the first stage of the education provided by Grammar Schools ;

(ii) to enable the pupils of such schools to obtain a Certificate which would exempt them from Matriculation Examination. (Chapter VII, § 5.)

100. We think that the conjunction of the Matriculation Certificate and the School Certificate has helped to upset that balance between academic and non-academic subjects which we believe should be maintained. (Chapter VII, § 5.)

101. We welcome the proposal that matriculation should not be obtainable solely on the School Certificate Examination. We think, however, that, with a view to preventing premature

(1) See also Chapter IV, Part I, § 4.

concentration on one or two subjects, the School Certificate or its equivalent should be a first condition for matriculation. (Chapter VII, § 6.)

102. We are in sympathy with the recommendation in the Report of the Panel of Investigators appointed by the Secondary School Examinations Council (1932) that Certificates should have recorded on them not only, as at present, those subjects in which credit is obtained, but also those in which the full pass standard is reached. (Chapter VII, § 6.)

103. We think that there should be a greater freedom of choice for individual candidates between the different subjects of the examination than is provided by existing regulations. Since, however, we regard training in the comprehension and expression of English as of special importance both for successful work in other school studies and for the conduct of practical affairs in later life, we regard a simple test in the use and understanding of the English language as a necessary qualification for obtaining the School Certificate. We are prepared, too, to accept a requirement that a candidate in order to obtain a Certificate must pass in English and *either* in a foreign language *or* in some scientific subject (including Mathematics). (Chapter VII, §§ 7 and 8.)

104. We regard as essential that there should be a reduction in the content of the examination syllabuses, and we submit the recommendation for the consideration of the Secondary School Examinations Council. If this reduction were effected, we see no objection to a requirement that a candidate must pass in at least five subjects; and we are of the opinion that this requirement is valuable as discouraging undue specialisation at this stage. Such reduction would not in our opinion make it any less desirable to extend the choice between different subjects. (Chapter VII, § 9.)

105. We see no reason why additional papers, or, in the case of Science, papers in particular sciences as well as a General Science paper, should not be provided. The syllabuses on which these papers would be based would differ in scope and character from those adopted for the ordinary papers; they should not, in our view, be of heavier content than the existing syllabuses for the School Certificate. We recommend that this proposal, together with our suggestions as to the place which additional papers might take in the general scheme of the examination, should be considered by the Secondary School Examinations Council. (Chapter VII, § 9.)

106. We believe that, as the changes which we have advocated are adopted, it will eventually be desirable for school records to be brought into consideration in connexion with the award of Certificates, provided that this can be done without lowering the esteem in which the examination is held by professional bodies and employers. (Chapter VII, § 10.)

VI.—Technical Schools

Nomenclature

107. Since the word 'Junior' in the expression Junior Technical School has rather misleading associations, we recommend that henceforth the expression 'Technical School' be used as a general term to describe all Junior Technical Schools recruiting their pupils at the age of 13+ and providing courses which last for two or three years. The name 'Technical School' will thus embrace both the specifically vocational schools hitherto known as Trade Schools, which prepare for definite occupations, and those schools which prepare for a range of related trades and occupations, viz., the Junior Technical Schools for boys, bearing on the engineering and building industries, the schools designed to prepare girls for home management, and the Junior Commercial Schools. (Chapter VIII, § 6.)

Junior Technical Schools for boys bearing on the engineering and building industries

108. We have come to the conclusion that the Junior Technical Schools for boys, associated with the engineering and building industries have succeeded in developing their curriculum on a broad scientific and realistic basis, and we are of opinion that for certain types of boy the education provided by this curriculum and the practical method of approach to various subjects, e.g., Science, Mathematics, and Engineering Drawing, best develop their capacities, and in consequence provide the course most appropriate for them whatever occupation they may eventually choose. (Chapter VIII, §§ 4 and 5.)

Technical High Schools

109. We are convinced that it is of great importance to establish a new type of higher school of technical character quite distinct from the traditional academic Grammar School. As a first step to this end, we recommend that a number of

existing Junior Technical Schools orientated towards the engineering and building industries and any other Technical Schools which may develop training of such a character as (*a*) to provide a good intellectual discipline altogether apart from its technical value, and (*b*) to have a technical value in relation not to one particular occupation but to a group of occupations, should be converted into Technical High Schools, in the sense that they should be accorded in every respect equality of status with schools of the grammar school type. We recommend that such schools, which would recruit their pupils at the age of 11+ and provide a five-year course up to the age of 16+, should be called Technical High Schools to distinguish them from full-time Technical Schools of other types which provide courses for pupils beginning at the age of 13 or 14. (Chapter VIII, §§ 6 and 8.)

110. We recommend that pupils should be recruited for Technical High Schools at the age of 11+ by means of the general selective examination by which pupils are at present recruited for the Grammar Schools. (Chapter VIII, § 7.)

111. The curriculum for pupils between the ages of 11+ and 13+ in Technical High Schools should be broadly of the same character as the curriculum in other types of secondary school of equal status. (Chapter VIII, § 9.)[1]

112. For pupils above the age of 13 the curriculum should be designed so as to provide a liberal education with Science and its applications as the core and inspiration. The subject matter would be English, History, Geography, Mathematics, Science, Engineering Drawing, Practical Crafts in the workshops, Physical Education and the Aesthetic Subjects, together with continued study of a foreign language for those pupils who have shewn that they are capable of profiting by it. (Chapter VIII, § 9.)

113. We strongly recommend that, wherever possible, Technical High Schools should be housed in the premises of Technical Colleges or Technical Institutes. In cases where it is not possible to accommodate the Technical High School in a Technical College, we think that it is most desirable that its buildings should be linked with the College buildings in order to facilitate full use of the equipment and staff of the college. (Chapter VIII, § 10.)

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(1) See Chapter IV, p. 182.

114. We consider that a Technical High School should be organised as a department of the Technical College and with the Head Master of the school as the Head of that Department. The ultimate control of the school would be vested in the Principal of the college, who could best secure that the technical equipment of the various Departments would be available for pupils of the school, and could most effectively secure and maintain the co-operation and interest of the Heads of the specialised Departments and their staffs in the life and work of the school. (Chapter VIII, § 10.)

115. Since the general conduct, discipline and corporate life of the Technical High School for which its Head Master is responsible are necessarily distinct from those of the Technical College, we suggest that a Sub-Committee of the Governors of the college should be appointed to manage the school, that the Head Master should have direct access to this Sub-Committee, and that the appointment of teachers exclusively engaged in the work of the school should be made after consultation with him. (Chapter VIII, § 10.)

116. We consider that the fee system in Technical High Schools should be the same as that in Grammar Schools situated in the same administrative area. (Chapter VIII, § 11.)

117. We recommend that a new type of leaving certificate should be established for pupils in Technical High Schools on the basis of internal examinations founded on the school curriculum, and subject to external assessment by assessors appointed or approved by the Board of Education in order to afford an adequate guarantee for a uniform minimum standard of certification in Technical High Schools throughout the country. We recommend that the arrangements for this leaving certificate should be planned on lines similar to those in use for the existing examinations for National Certificates. (Chapter VIII, § 12.)

118. We recommend that these certificates should be given an equal standing with School Certificates as fulfilling the first condition for matriculation. (Chapter VIII, § 12.)[1]

119. We recommend that close relations should exist between Grammar Schools and Technical High Schools, so that opportunity of transfer at about the age of 13 should

[1] See Recommendation 101.

exist for those pupils whose later development makes it clear that they would be better suited by an alternative form of education. (Chapter VIII, § 20.)(1)

120. We hope that employers and Trade Unions will see their way to reconsider the conditions of entry into and service in industry, with special reference to the age of admission and the period of apprenticeship required for boys who have taken a course in a Technical High School. (Chapter VIII, § 13.)

Junior Commercial Schools for boys and girls

121. While we fully recognise that valuable work is being done in Junior Commercial Schools, we recommend, for the reasons stated in Sections 15 and 16 of Chapter VIII of our Report, that these schools should continue as at present to recruit their pupils at the age of 13 or 14. (Chapter VIII, §§ 15 and 16.)

Home Training Schools for girls

122. We consider that valuable work is being done in Home Training Schools for girls and, for the reasons stated in Sections 15 and 17 of Chapter VIII, we recommend that these schools should continue as heretofore to recruit their pupils at the age of 13 or 14. (Chapter VIII, §§ 15 and 17.)

Trade Schools

123. We desire to reaffirm the view expressed in our Report on *The Education of the Adolescent* (1926) that the Trade Schools within their own province are doing valuable work and should be developed as far as is possible in accordance with the needs and requirements of certain local industries. We recommend that admission to these schools should not be obtained at an earlier age than 13+, and we would prefer 14+. We think that in areas where there is a steady demand for the entry of young people to permanent employment in established trades, schools of this type are justified. (Chapter VIII, § 19.)

Junior Art Departments

124. We think that, before a local education authority decides to add a Junior Art Department to its Art School, it should be satisfied that the necessary variety of teaching power in art subjects can be found only in the Art School, and

(1) See Recommendations 71 and 144–8.

that the probable future occupations of the pupils are of such a character that specific art teaching cannot be deferred till the age of 15 or 16. (Chapter VIII, § 21.)

125. We think that a Junior Art Department ought to be regarded as a Junior Department within an Art School, or an Art Department of a Technical College, rather than as a school in itself. (Chapter VIII, § 21.)

126. We recommend that pupils should not be admitted to Junior Art Departments till they have attained the age of 13 at least, and wherever practicable we favour a later age for admission. (Chapter VIII, § 21.)

127. In general, we do not think that specialised Junior Art Departments afford the best means of giving a general artistic training to boys and girls. We consider that attendance at a Grammar (Secondary) School with a sympathetic leaning towards art teaching, followed by full-time attendance at an Art School (or an Art Department of a Technical College), for which the scholarship schemes of most local authorities provide means, is a more suitable alternative for pupils who require a general rather than a specific training in art. (Chapter VIII, § 21.)

128. We recommend that the Board of Education should consider the question of general education in Junior Art Departments in regard both to the balance of appropriate subjects and their efficiency, and to the number of teaching periods which are devoted to them in the successive stages of the course. We suggest also that the Board should consider such questions as the local circumstances which best justify the establishment of a Junior Art Department, how the disability arising from the comparatively small size of this department may best be remedied, and what should be the appropriate age of admission. (Chapter VIII, § 21.)

VII.—Administration

Parity of schools in the secondary stage of education

129. On a first view, it would appear that many benefits might accrue if children above the age of 11 were educated together in multilateral schools, since the transfer of pupils at various ages to courses of teaching appropriate for their abilities and interests would be facilitated, and children

differing in background and objective would be working in close association within the same school. For reasons which we state in the body of our Report, we have, however, with some reluctance, come to the conclusion that we could not advocate the adoption of multilateralism as a general policy in England and Wales. (Chapter IX, Introductory, § 1.)

130. We do not, however, wish to deprecate experiments for establishing multilateral schools, especially in areas of new population. We consider further that the provision of varied types of secondary education may be assisted in some areas, particularly in those of sparse population, by the combination of a Grammar School with a Modern School in one set of buildings. We make detailed recommendations for the formation of multilateral schools of this type. (Chapter IX, Introductory, § 1, and Part I, §§ 4 to 6.)

131. The multilateral idea, though it may not be expressed by means of the multilateral school, should in effect permeate the system of secondary education as we conceive it. Each type of secondary school will have its appropriate place in the national system with its educational task clearly in view; and in the great body of schools maintained or aided by the Board of Education and the local authorities educational considerations alone should determine the parent's choice, just as if the various schools were alternative sides of the same school. (Chapter IX, Introductory, § 2.)

132. For the complete realisation of our recommendations regarding curriculum and the interrelation of schools, parity of schools in the secondary stage of education is essential. This principle was implicit in our Report on *The Education of the Adolescent* (1926), and we desire expressly to assert our conviction of its importance. If schools providing secondary education of different types are to be made equally acceptable to parents, and opportunities for entering the type of school which can best develop their particular abilities, are to be made equally available to the children, the establishment of parity between all types of secondary school is a fundamental requirement. (Chapter IX, Introductory, § 2.)

133. We make a number of concrete recommendations with a view to ensuring that parity between all types of secondary school may be established, and certain other recommendations which are dependent thereon for their fulfilment. (Chapter IX, Introductory, § 2.)

A Secondary Code

134. We recommend that the three types of secondary school, attended by children over the age of 11, which we have named Modern Schools, Grammar Schools, and Technical High Schools, should be administered under a new Code of Regulations for secondary schools, and that a Code of Regulations for primary schools should exist for schools attended by children up to the age of 11+. (Chapter IX, Part VI, § 22.)

Establishments of Teaching Posts

135. We recommend that the following main proposals regarding Establishments of Teaching Posts in secondary schools, together with certain ancillary suggestions which are contained in the body of our Report, should be submitted for the consideration of the Burnham Committees.

(i) That in the three types of secondary school, namely Modern Schools, Grammar Schools, and Technical High Schools, there should be Establishments of Teaching Posts, so that the salary of the teacher will no longer depend directly upon the type of school in which he is serving. (Chapter IX, Part II, § 7.)

(ii) That there should be two Scales of Salaries for Teachers in secondary schools, a 'higher' scale, corresponding generally to the existing Burnham Graduate Scale, (including the provision for posts of special responsibility), and a 'lower' scale, corresponding generally to the existing scale for Certificated Teachers, and to the non-graduate scale, which is very similar. (Chapter IX, Part II, § 8.)

(iii) That in each school there should be posts on both scales, the proportion of posts allocated on the higher scale being larger in Grammar Schools and Technical High Schools than in Modern Schools, according to the preponderance of more advanced work and specialist teaching, and for the same reason being larger also in 'selective' than in 'non-selective' Modern Schools. (Chapter IX, Part II, § 8.)

Size of Classes : School Buildings

136. We recommend that the maximum size of classes in the Grammar School and in the Modern School should

be the same(1); and that, accordingly, the basis of assessment for school places should be the same in both types of school. (Chapter IX, Part III, § 10.)

137. We recommend that the building requirements, including playing-fields, gymnasiums, dining rooms and common rooms, for the Grammar School and the Modern School should generally be the same, apart from the fuller provision necessary in Grammar Schools for the teaching of certain subjects of the curriculum, and the provision of smaller classrooms for Sixth Form use. (Chapter IX, Part III, § 10.)

School Fees

138. If parity of schools in the secondary stage is to be established, payment of fees in one school and not in another becomes incongruous. We hold that the conditions which apply in Modern Schools, in which no fees are paid, should be extended to other types of secondary school, as soon as the national finances render it possible. For the intervening period we make proposals with regard to Special Places. (Chapter IX, Part IV, § 17.)(2)

100 per cent. Special Place System

139. In all Grammar Schools in which the cost to parents is substantially reduced by assistance from public funds, we recommend the adoption of the system of 100 per cent. Special Places, subject to the following conditions:—

(i) A provision for Grammar School and Technical High School education of such amount as to afford places for all children who will benefit from receiving such education rather than from receiving education in a Modern School. (Chapter IX, Part IX, § 33 and Part X, § 38.)(3)

(ii) The selection of children, as being likely thus to benefit, in accordance with the method indicated in our Report. (Chapter IX, Part IX, § 34.)(4)

(iii) The gradual extension of the system, and the provision of certain specific safeguards described in our Report. (Chapter IX, Part IX, § 35.)

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(1) "The number of pupils taught together at one time must not without the concurrence of the Board exceed thirty, and must never exceed thirty-five."—Grant Regulations No. 10 (1935)—Regulation 5.

(2) See Chapter VIII, § 11, p. 278.

(3) See Recommendations 143 and 151.

(4) See Recommendations 140–3.

(iv) A power for the time being to the Board of Education, after consultation with the local education authorities, to require less than 100 per cent. Special Places in the case of 'direct grant' schools in those areas where an adequate supply of special places can otherwise be made; the desirability of maintaining these exceptions to be reviewed by the Board of Education five or six years hence. (Chapter IX, Part IX, § 36.)

The Special Place Examination

140. We believe that the selective examination at the age of 11+ for secondary schools, as ordinarily conducted, is capable of selecting in a high proportion of cases (*a*) those pupils who quite certainly have so much intelligence, and intelligence of such a character, that without doubt they ought to receive a secondary education of grammar school type; and (*b*) those pupils who quite certainly would not benefit from such an education. We consider that the line defining group (*a*) should be so drawn as to allot in this way something of the order of 50 per cent. of the Special Places. (Chapter IX, Part X, § 38, and Part IX, § 34.)

141. We recommend that the choice for grammar school places as between pupils who fall into neither of these groups, but form a 'middle group', should be made on the result of a method of selection, including an interview, in which facts other than their relative place as determined by the examination are brought into account. About half the Special Places would be allotted from this 'middle group'. (Chapter IX, Part X, § 38, and Part IX, § 34.)

142. We think it important to recognise that the Special Place Examination, as ordinarily conducted, is a better test for children educated in public elementary schools than for children who have received some other form of primary education. (Chapter IX, Part X, § 38.)

143. We desire again to emphasise that no method of choice can work satisfactorily unless there are enough grammar school places to secure a grammar school education for those children who, all things considered, will benefit more from such a course than from other forms of secondary education. (Chapter IX, Part IX, § 33, and Part X, § 38.)

Transfer of pupils at the age of 13+

144. We recommend that there should be a further review, at about the age of 13, of the distribution of children among all schools in the secondary stage. (Chapter IX, Part XII, §§ 43 and 46.) (1)

145. We recommend that this review should not take the form of a general examination, but that it should be incumbent upon the Heads of schools to prepare returns in respect of those pupils who, in their opinion, might be better placed in other types of secondary school. (Chapter IX, Part XII, § 46.)

146. For reasons which we have given in the body of this Report, and in our earlier Report on *The Education of the Adolescent* (1926), we recommend that opportunity for transfer of pupils at a later age than 11+ should be made a reality, and that definite educational machinery should be devised for this purpose. (Chapter IX, Part XII, §§ 43 and 44.)

147. The kind of transfer which we consider to be undoubtedly of highest importance and of most frequent occurrence is that from Modern Schools to Grammar Schools, or to Technical High Schools. (Chapter VIII, § 7; Chapter IX, Part XII, § 45.)

148. We consider that transfer of pupils from Grammar Schools to Junior Commercial Schools or Home Training Schools at the age of 13 should be very exceptional, and that, as a general rule, the pupils should be retained in the Grammar School until they have taken the School Certificate Examination, and that they should proceed at about the age of 16 to appropriate full-time courses in Commercial Subjects or in Home Training at Technical Colleges. (Chapter VIII, § 20.)

The School Leaving-Age

149. Parity among schools under the proposed new Secondary Code(2) implies the raising of the minimum leaving-age to the same general level in these schools. (Chapter IX, Part V, § 19.)

150. The adoption of a minimum leaving age of 16 years, which is now the rule in Grammar Schools, may not be immediately practicable, but in our judgment must even now be envisaged as inevitable. (Chapter IX, Part V, § 19.)

(1) See also Recommendations 71 and 119.
(2) See Recommendation 134.

Amount of provision of education of the Grammar School and Technical High School types

151. We consider that the amount of provision of education of the grammar school type which is desirable cannot be precisely laid down for the country as a whole. It depends in each area in a high degree on the character and traditions of the population, industrial conditions, and the future careers of the children. We seek to arrive at a *standard* by which local authorities may measure their provision of grammar school education, having regard to what they judge to be the particular needs of their areas. (Chapter IX, Part VIII, § 26.)

152. On the assumption that alternative forms of secondary education will be provided, on the one hand by the development of Modern Schools both of the selective and non-selective type, and on the other hand by an adequate supply of Technical High Schools, we think that provision based on an average annual admission to the Grammar Schools of 15 per cent. of the 'secondary school age-group' in the public elementary schools(1) might for the present be accepted as a working figure, apart from any margin that may be required for pupils entering Grammar Schools from other than public elementary schools.(2) (Chapter IX, Part VIII, § 28.)

153. The standard which we have mentioned may require, on detailed consideration, considerable modification in particular areas, in order to conform to our governing principle that the supply of grammar school places should be regarded as adequate only when a grammar school education is available for all those pupils who will benefit more from such a course than from such other forms of secondary education as are provided in Technical High Schools and Modern Schools. In view of the provision of Technical High Schools which we are recommending for boys, a somewhat higher grammar school provision is likely to be required for girls. This is the more necessary since the provision for boys is already more generous than that for girls. (Chapter IX, Part VIII, § 28.)

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(1) By 'secondary school age-group' we mean the age-group 10 to 11 years in the public elementary schools (see p. 320).

(2) Our evidence shows that this margin during the last few years can be expressed for the country as a whole as a constant figure of 3 per cent. of the 'secondary school age-group' in public elementary schools.

154. We are strongly of the opinion that there is room for a considerable development of Technical High Schools; and we suggest that the provision of Technical High Schools in association with Technical Colleges does not concern exclusively the more highly industrialised areas. We commend this problem to local authorities for their careful consideration. (Chapter IX, Part VIII, § 29.)

155. We further recommend that the provision of Grammar Schools with an 'agricultural bias', or alternatively of Technical High Schools associated with Technical Colleges in rural areas, should be seriously undertaken; and that the development of such schools should not be left entirely to individual interest and initiative, but should be planned by the local authorities on a regional basis. (Chapter IX, Part VIII, § 31.)(1)

Post-Certificate work in Grammar Schools

156. We are convinced of the importance of developing Sixth Forms in Grammar Schools both for their effect upon the corporate life and internal affairs of a school, and for their effect upon the length of school life and future careers of individual pupils. (Chapter IX, Part XI, § 39.)(2)

157. We deprecate any proposals whereby all Sixth Form work would be concentrated in 'central' Grammar Schools, with the consequent 'beheading' of the smaller Grammar Schools. We consider it of importance that every Grammar School should contain a Sixth Form. (Chapter IX, Part XI, § 39.)

158. We think it highly important that the Governors and Heads of Grammar Schools should give careful consideration to the framing of post-Certificate courses, appropriate for pupils who are not going on to the University, of a general character but containing where possible elements definitely related to the future careers of the pupils. (Chapter IX, Part XI, § 40.)(2)

159. There are circumstances in which pupils preparing for the University or for the Higher School Certificate should not be retained in a small Grammar School. We believe that such individual cases of transfer at a late age may be met by sympathetic administration. (Chapter IX, Part XI, § 41.)

(1) See Chapter IV, Part IV.
(2) See Chapter IV, § 22.

160. We have come to the conclusion that, from the point of view of practical administration, there may be at times a case for a mutual transfer of pupils among large town schools, and occasionally even among schools in a county area, so that strong Sixth Forms may exist in each school for particular types of Higher School Certificate work. (Chapter IX, Part XI, § 42.)

Autonomous Areas

161. We recommend that the problem of 'Part III Authorities' should be remitted to a Departmental or Inter-Departmental Committee which would not seek any general solution before it had fully investigated the circumstances of individual areas; the character of the work already accomplished by Part III Authorities; the possibly deterrent effects of a dual administration; the efficacy of devolution; the minimum standard of school population requisite for the exercise of full educational powers; the effect of amalgamation, or transfer of powers, upon the administrative efficiency of neighbouring authorities; and other relevant matters. (Chapter IX, Part VII, § 25.)

Private Schools

162. We recommend that compulsory inspection of all Private Schools should be introduced without further delay. (Chapter IX, Part IX, § 37.)

VIII.—Special Welsh Problems

163. Secondary education in Wales presents a number of special problems due to several causes, of which the most important are the extensive provision of Intermediate Schools, now generally known as County Schools, under the Welsh Intermediate Education Act, 1889; the comparative neglect of the provision made for technical education under that Act; the bilingual problem; the problem created by the areas of sparse population and by the fact that in some districts pupils do not enter the Intermediate (County) Schools till the age of 12. (Chapter X, *passim*.)

164. We recommend that immediate attention should be given to the age of admission to 'Intermediate' Schools. (Chapter X, § 3.)

165. While we fully recognise that the small size of many of the Intermediate Schools has hitherto rendered it difficult to provide successfully alternative intermediate and technical courses, we think that the suggestion which we have made in Chapter IX for the experimental establishment of small Grammar Schools incorporating a Modern (Senior) School might be specially applicable to conditions in some Welsh areas, and might assist also towards the solution of the problem of providing for the technical side of secondary education. We accordingly recommend that the whole question of establishing Modern (Senior) Schools in close association with Grammar Schools, particularly in areas of sparse population, should be examined, and that the particular solution of the problem contemplated by the Welsh Departmental Committee in 1929(1) should be seriously considered in the light of the suggestions we have made. (Chapter X, § 4.)

166. We note that the Welsh language is being given its due place in the curriculum of the schools and that various methods have been adopted to cope with the difficulties of bilingualism. We suggest that the standard in English to be expected of boys and girls in Welsh Grammar Schools need not be lower than that in the Grammar Schools of England. (Chapter X, § 5.)

167. In view of the bilingual problem we desire strongly to recommend that generous provision of books in English and Welsh, both for class use and for library use, should be made in Welsh Grammar Schools. (Chapter X, § 5.)

168. We suggest that liberal provision should be made, as has already been done in many cases, for the teaching of Arts and Crafts, Speech Training, Music and Dramatic Art, and the History of Wales in connxtion with Welsh literature and with physical and economic geography. In particular, we would suggest that more attention should be devoted to the teaching of Art. (Chapter X, § 7.)

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(1) See also Recommendation 16 on page 151 of the Report of that Committee, entitled *Education in Rural Wales* (1930) which runs as follows :—

> " It should be made possible, by legislation if that is necessary, for the existing Intermediate and Secondary School Buildings to be made available for all types of Post Primary Education."

169. Having regard to the opinion expressed by the Federation of Welsh Education Authorities " that Religious Instruction and a knowledge of the Bible should be an integral and active part of the curriculum for Secondary School pupils ", we call special attention to our detailed Recommendations in Chapter V regarding the teaching of Scripture in Grammar Schools. (Chapter X, § 7.)

(*Signed*)—

WILL SPENS (*Chairman*)
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W. A. BROCKINGTON
H. W. COUSINS
L. GRIER
PERCY JACKSON
JOSEPH JONES
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13th October, 1938.

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